BULLETIN No. VII. PART I.

NATURAL HISTORY SURVEY

THE HIGHER FUNGI OF THE CHICAGO REGION

PART I.—THE HYMENOMYCETES

BY

DR. WILL SAYER MOFFATT

CHICAGO
PUBLISHED BY THE ACADEMY
JUNE 1909

THE CANTWELL-WARREN PRINTING CO.
CHICAGO

LETTER OF TRANSMITTAL

CHICAGO, ILL., February 1, 1909.

DEAR SIR: By direction of the Board of Managers of The Natural History Survey of The Chicago Academy of Sciences, I herewith submit to you for publication a report on The Hymenomycetes, to be issued, under the rules of the Academy governing such matters, as Part I of Bulletin No. VII, on the Higher Fungi of the Chicago Area, prepared by Dr. Will Sayer Moffatt of Chicago.

Respectfully,

CHARLES S. RADDIN,
Secretary, Natural History Survey.

TO THOMAS C. CHAMBERLIN,
President of The Chicago Academy of Sciences.

The Board of Managers of The Natural History Survey of The Chicago Academy of Sciences:

Charles S. Raddin, *Secretary.*

Thomas C. Chamberlin.

Gayton A. Douglass.

Stuart Weller.

NATURAL HISTORY SURVEY

The report on the Higher Fungi of the area covered by the Natural History Survey will be issued in parts, prepared by Dr. Will Sayer Moffatt, and will constitute Bulletin No. VII.

The present report constitutes the first part of this bulletin and includes descriptions, with many figures, of the Mushroom-like Fungi of Chicago and vicinity. Owing to their economic value, these plants possess an interest to the epicurean as well as to the botanist, and it is believed that the layman will be quite as much interested in the work as the more serious student.

The territory covered by the Survey includes Cook and Du-Page counties and the nine north townships of Will County, in Illinois, with a portion of Lake County, Indiana. This gives an area of about forty-eight or fifty miles square, or a land surface of nearly 1,800 square miles.

CONTENTS

	Page
Preface	9
Introduction	11
I. Order Hymenomycetes	11
II. Collecting and preserving Fungi	14
Description of Genera and Species	19
References to Literature	147
Index	152

PREFACE

In the year 1898, several local botanists who were interested in the lower forms of plant life, organized the "Chicago Mycological Society." Its purpose was the scientific study of the fungus flora of the Chicago area. A division of labor was instituted, each member selecting a group of plants for special investigation. At the monthly meetings, papers were read and discussed, and specimens brought in for study and comparison, while the formation of individual herbaria and a system of card-indexing have made the results of the work available for future use.

The John Crerar Library has generously given the society a room for its meetings (the location being more convenient than that of the Academy) and has ever been ready to place upon its shelves such literature as might be needed for the prosecution of the work.

Prior to the formation of the Mycological Society, no co-operative effort had been made in the direction of the study of the higher fungi of Chicago, and it is through the labors of these self-constituted specialists aided by the broad spirit of the Crerar Library that the preparation of this bulletin has been made possible. In furtherance of the work of the society the secretary undertook the preparation of a descriptive card-index of all species of the higher fungi reported from the United States. This was found necessary for the reason that no manual of these plants has yet been published in this country, and the descriptions of our species must be sought in the transactions of scientific societies and botanical journals, or in many cases in the works of English, French, German, Swedish and Italian authors. This index, which contains nearly three thousand cards, has been of great value in the determination of our species.

In cases of doubt, specimens have been referred to Messrs. Burt, McBride, Morgan, Peck, Lloyd or other specialists, while the herbarium of Prof. E. T. Harper of our own society has been useful in resolving perplexing problems, particularly in the woody fungi. Through the zeal and enthusiasm of the latter gentleman it has been possible to exhibit excellent photographs of a number of our species. Acknowledgments are also due to Messrs. F. M. Woodruff and Grant Wyrick for the photographs which bear their names.

The arrangement of families and genera is that of Saccardo's Sylloge. Where departure has been made from this by American botanists, mention of the fact has been made in the text.

It should be understood that this bulletin is only a preliminary study, and is published at this time in order that students of the mycology of the Chicago area may have a starting point for their own work. That it is far from complete, no one can be more thoroughly aware than the writer. He, too, is to be held responsible for errors in determination, except in cases where credit for the admission of a species is given to some other collector.

W. S. M.

INTRODUCTION

I. ORDER HYMENOMYCETES.

Mycelium floccose, giving rise at once to a distinct hymenium or producing a variously shaped naked or volvate receptacle, even or bearing on its upper or under surface various folds, plates, prickles, etc., clothed with fertile hymenial cells.

Under the order defined as above by Mr. Berkeley, botanists have described a large number of fungi, including species of remarkable diversity of size, form and appearance. The group contains nearly all of the plants commonly known as mushrooms, club-fungi, coral-fungi and bracket-fungi. In one character the species all agree. Their spores, asexually produced, are borne free on the apices of minute spicules projecting from the surface of the hymenium.

The life-history of the members of the group is comparatively simple. A spore, falling upon a medium suitable for its development, under proper conditions of temperature and moisture, soon puts forth slender, thread-like filaments called hyphae, which as growth proceeds at length form a tangled network of fibers, known as mycelium. After a time, if the conditions for growth continue favorable, little rounded nodules or elevations appear at various points upon the plexus of mycelium. These are the beginnings of the fructification or sporophore. As the nodules increase in size they take on definite shapes, and when fully grown develop upon some part of their surface a hymenium, upon which is borne a crop of spores, completing the round of the plant's existence.

The mycelium is made up of long, branched, multicellular hyphae. Fusion of cells, both with other cells of the same hypha and with those of adjacent hyphae is common. By the multiplexity of these unions and continued growth of the hyphal strands, the mycelium which in its earlier stages consisted of thin, radiating, spider-web filaments, may come to form dense, felted masses. It is usually colorless or white, becoming sordid with age, but may be creamy-white, tan, brown, or even black. In many species it is perennial, and may continue to grow for years without fruiting. Except in cases where it exhibits a distinctive color, it is of little importance in the determination of species. Indeed, where a number of kinds are growing within or upon the same matrix, it is often impossible to distinguish one from another.

The spores are minute bits of protoplasm, of various sizes, shapes and colors. In one group, the Agaricaceae, they have been made a basis for classification. The colors range from white, through creamy-white to yellow, pale-pink to deep flesh-color,

ochraceous to dark brown, and purple to dead black. Many are spherical, others ellipsoid, oblong, cylindrical, or fusiform, while not a few are obovate or pyriform. Their surface may be smooth, granular or echinulate. Typically four are produced from the apex of each spicule or basidium.

The sporophore with its hymenium forms the conspicuous part of the fungus, and it is this portion that is chiefly considered in the classification of species. Detailed mention of its forms and characters will be found in the generic keys on succeeding pages.

It may be noted that the duration of life of the sporophore varies immensely in different species. Some Coprini spring up literally in a night and disappear with the morning sun, while other species may continue to grow for many years. Fomes igniarius is said to attain the age of eighty years. (Atkinson, Am. Fungi, p. 194.)

Many problems in the life history of these plants are yet to be worked out. All of our species are considered saprophytes, yet it is known that the mycelia of certain species produce a soluble ferment which extends into and affects injuriously the living tissues of plants, probably to the advantage of the fungus. Still other species appear to have established such symbiotic relations with growing trees and shrubs that fungus and host are enabled to thrive, each at the expense of the other, without detriment to either.

The duration of life of the mycelium of many species is uncertain, and the conditions under which fructification may occur are imperfectly understood. Some species of Lentinus and Lenzites may persist for years in railroad ties or bridge timbers, finally causing a total disintegration of the wood without the appearance of a sporophore at any stage of growth of the fungus.

The coloration of species, their chemical composition, particularly with respect to toxic properties that may appear at certain stages of growth while absent at others, and in varying intensity in plants grown in different soils or localities, are matters concerning which too little is known.

The dissemination of species is another matter little studied. Many kinds are erratic in their appearance. They may be abundant one season, disappear altogether for one or more years and then reappear in large numbers, while other species apparently similar in their climatic requirements have occurred regularly each season.

Modern commerce brings to us the wood and other tree products of every part of the globe. With these are undoubtedly imported the spores and mycelia of saprophytic fungi, both in the tissues of the wood and in or upon the bodies of burrowing larvae. So limited is our knowledge of the geographical distribution of our native fungi, that it is possible for species thus introduced to increase and thrive for years without being recognized as exotic.

The structural and physiological modifications that must accompany a change of environment do not appear to have received

attention. That the sporophores of certain species differ in appearance upon different hosts is well known, and this difference has been seized with avidity by some of our ambitious species-makers as an excuse for printing their names after many forms which to the conservative botanist are not entitled to specific recognition. The common mushroom, Agaricus campestris, has through long cultivation taken on a number of forms, some of which have been elevated to varieties by a few European writers.

Our knowledge of the distribution of species in this country is yet too limited to admit of any satisfactory study of their ecological relations with the higher plants and with other fungi. The matter of food-supply is a factor of first importance. In an undisturbed forest a tolerably constant supply of nutrition is no doubt obtained from fallen leaves, twigs, branches and trunks. The overturning of a tree by the elements gives to a host of fungi an available supply of food that may suffice for a number of years. The wound left in a trunk by the falling of a branch may permit the entrance of a colony of spores, followed by a growth of mycelium which in time will permeate the entire tree, so that it literally gives up its life to its host. By the action of fungi the weakened trees are sacrificed to make room for those which have more vigor, while dead underbrush and fallen trunks are transformed into soil capable of renewing the forest growth. With the clearing of the forest, the equillibrium maintained for centuries between constructive and destructive vegetation is abruptly terminated. A multitude of species of fungi perish by starvation, the entrance of light and the withdrawal of moisture. Other species are able to subsist in diminished numbers and in more or less impoverished condition upon the trees, shrubs and vines which have been introduced into the localities formerly occupied by the forest.

The changes that take place in fungi thus suddenly forced into a new environment have not been studied; nor have those that take place in species which have gradually extended their range into garden, orchard and vineyard from their adjacent forest home.

The mutual relations that exist between the great race of terrestrial agarics and the higher vegetation amidst which they grow, and the possible succession of species following definitely the changes wrought in soil and vegetation by those that have preceded them, are also matters yet to be investigated.

Investigations have led to the conclusion that the spores of certain species of Coprinus are capable of germination only after they have passed through the digestive tract of some particular animal. Whether this is true of other species of the genus, and whether the spores of species of other genera require some similar or other preparation before germination has not been fully made out.* The fact that the sporophores of many species are visited

*See Ferguson, Bulletin 16, Bureau of Plant Industry, U. S. Dep. Agr., and literature there cited.

by larvae, while insects, birds, squirrels and other small animals, as well as deer and cattle are known to feed upon these plants, suggests that all of these may play some important part in the viability and dissemination of the spores.

The points mentioned above are only a few of the many that require further study. In fact, there is perhaps no department of biology in which there is more need of earnest, painstaking research at every turn.

II. COLLECTING AND PRESERVING FUNGI.

On account of their perishable nature the higher fungi of a locality are often the last group of plants studied. Many species are so short-lived that they must be sketched or photographed and described within a few hours after they are collected, since they lose their shape, color and much of their susbtance in drying. Yet in a group like the Agaricaceae, containing several thousand described species, all characterized by an underground mycelium, a sporophore consisting usually of a stipe expanded at its apex into a pileus or cap which bears upon its inferior surface radiating lamellae or gills, it is evident that no character, however subtle or insignificant can with safety be overlooked. Therefore it is recommended that in addition to the study of fresh specimens, some of the plants be dried and others preserved in alcohol or formalose.

The region at the head of Lake Michigan is by no means an ideal one for the collector. The conditions for the highest development of our plants are an abundance of decaying vegetable mold, an even temperature, plentiful moisture, more or less shade, and the absence of strong air-currents. The nearest approach to these conditions is found in the wooded ravines near the lake shore from North Evanston to the Lake County line. Next to this region in fruitfulness may be mentioned the fringes of timber bordering the Chicago and Desplaines rivers, the prairie groves of DuPage, Will, and the southwestern portions of Cook counties. The sand dunes and cold swamps at the south end of the lake, so rich in the higher flora, contain comparatively few species. Amanitas are fairly common in the dunes, while a few woody species grow upon drift-wood or trees that have been buried by the shifting sands. In the lowlands bordering the swamps may be found some species of Russula and Lactarius.

The zealous collector may often find plants in the most unpromising places, such as manure heaps near livery stables or greenhouses, among rubbish in dumping grounds or alleys, in weedy areas in waste ground or back yards, in short wherever there is an abundant local supply of decaying organic food. The tract of filled ground along the lake shore from Chicago avenue to Superior street, was for several seasons visited regularly by Bohemians who collected agarics for table use. Agaricus campestris and a few other species must be sought in open fields and

cultivated grounds. Some species can be found in early spring after a few days of warm sunshine, and successive crops can be gathered as long as spring showers continue. During the hot dry weather of summer scarcely any fleshy fungi appear, but a heavy rain followed by several days of warm cloudy weather will give an abundant harvest. After the autumn rains set in, collecting is usually good until frost, while a few hardy kinds will endure in sheltered places under leaves and about the base of stumps, until the ground is frozen. Some woody species can be collected at any season of the year, and in fact are more conspicuous in winter and late autumn after the leaves have fallen from the trees and undergrowth.

Those who take up the scientific study of the higher fungi are usually botanists of such experience that it might be assumed that suggestions for collecting and preserving plants would be superfluous. It may not, however, be out of place to give briefly the methods of our local collectors, and also an outline blank for those who wish to write descriptions of these plants. This outline is essentially that of the Boston Mycological Society.

Collecting. The materials for collecting are few and simple. A market basket, preferably with a cover, a few wide-mouthed jars or vials for delicate plants, a serviceable pocket knife for sectioning specimens and digging up those which grow upon the ground, a stout chisel for removing those which grow upon trees or stumps, a good quantity of tissue paper for wrapping specimens, a tablet of small sheets of writing paper for labels and field notes, a lead pencil and a pocket magnifier constitute the outfit.

Field Notes. It is important that field notes be made of characters that cannot be made out with certainty after the plants have been brought home, such as the character of the veil, ring, or volva when these are present, the moisture or dryness of the fresh pileus and its colors if hygrophanous, the color of the lamellae both in young and mature specimens, the color of the spores if found upon the plants themselves or upon adjacent leaves, twigs or grasses; also the special habitat, whether in moist or dry places, and the name of the host upon which it was found. A good series of plants, both young and fully matured, should always be collected if possible, and these, of one species only, should be compactly piled in the center of a tissue-sheet, and the four corners of the sheet brought together and fastened by twisting. The field-notes should be wrapped with the specimens or fastened to the wrapper. The packages should be packed carefully in the basket in such a manner that the plants will not be crushed.

Upon reaching home the plants should be taken from the basket and the various collections assorted for examination, the more perishable kinds being selected for first attention. If the spores of a species are unknown, the cap may be cut from an agaric and placed, lamellae downward, partly upon a microscope slip and partly upon a slip of white paper if the spores are supposed to be dark, or on black paper if they are thought to be white.

If the specimen was mature, an abundant deposit of spores will usually be found upon the slip and paper after the lapse of a few hours. Their color in mass upon the paper should be noted, and their size, shape and any peculiarities determined by examination with the microscope.

Where frequent spore examinations are to be made, it is convenient to have a stand fitted with an eye-piece micrometer and lenses giving a magnification of 400 diameters, this being the standard in the published figures of these plants. With such an outfit, it is only necessary to place a small drop of water on a cover-glass, drop the cover carefully upon some portion of the slip where the spores are rather thinly distributed, place the slip upon the stage and focus. With such an outfit the spores of a large number of specimens can be examined in a comparatively short time. A record of the size and shape of the spores should be written on the field-label. If the microscope is not fitted with a micrometer, drawings of the magnified spores should be made.

Spores of Polyporei, Boleti and the Hydnaceae may be obtained by laying the plant, pore-surface downward, upon the glass slip and paper; those of Clavariae and Thelephorae by laying one or more plants upon the slip and paper and covering with a tumbler or bell-glass to exclude air-currents. When, after trial, it is found impossible to obtain a deposit of spores, a section of the pore-bearing surface can be examined under the microscope. Measurements obtained in this way should be recorded as tentative only, for the reason that the spores thus seen are of various stages of growth, and it is difficult to determine the average size or even the typical shape and markings of those which are fully matured.

Drying and Preserving. Woody plants and the small agaries can usually be dried by placing them in a dry, sunny window. The fleshy agaries, however, must be dried by artificial heat and as quickly as possible. In the summer time, the kitchen range is usually the best place. If this is not available, the plants may be placed upon ordinary botanical wire presses or any convenient screen of wire netting and suspended over a gas burner or kerosene lamp, keeping the specimens as near the flame as can be done without scorching. After the plants are thoroughly dry they may be kept in open boxes in any convenient dry place, preferably one exposed to sunshine, until the end of the collecting season.

Freshly gathered plants may be preserved in jars or bottles with a 2% aqueous solution of formaldehyde, or in methyl spirit. If the former liquid is used the jars must be well sealed. If after a time a cloudy deposit is seen at the bottom of the jar, the formalin has evaporated to such an extent that it is no longer preservative. In such cases the jars must be opened, the liquid poured off and a fresh supply added. The temperature of the room should not fall below zero C. If the plants are kept in spirit this precaution is not necessary.

It may as well be confessed that no satisfactory method of

preserving the shape, color and consistency of these plants has yet been devised. Until some good process is invented we must have recourse to photographs, drawings and descriptions.

Poisoning. Fungi in the herbarium are very liable to the attacks of insect pests. Before storing a collection of dried plants it is well to fumigate the specimens in a tight box (a tin wash-boiler is convenient for the purpose) in which a saucer of carbon disulphide has been placed. The process should be repeated after a few weeks to destroy any eggs that escaped the first fumigation. Naphthaline kept in the boxes with the plants will keep out insects but will not stop the ravages of those that may already be in the plants.

Storing in the Herbarium. For methods of sectioning, pressing and mounting fleshy fungi upon herbarium sheets, reference may be had to the manuals. To us all these methods have seemed unsatisfactory, and our collectors keep all of their plants just as they were dried, in convenient sized cardboard, wood or tin boxes. Methods of labeling and arrangement of species, genera, etc., in the herbarium do not differ from those used in herbaria of the higher plants, and call for no special mention here.

Description Blank:

Pileus. Shape—flat, convex, concave, umbonate, umbilicate.

Dry, moist, hygrophanous, dull, shining, viscid; tough, fragile, fleshy, membranaceous; smooth, floccose, scaly, silky, fibrillose; even, rough, wrinkled, furrowed, etc.

Margin entire, wavy, striate, pectinate, tuberculate, involute, evolute, pubescent, smooth, floccose, strigose, appendiculate, etc.

Color and markings; change of color when cut or bruised.

Odor, taste.

Lamellae or Tubes. Shape; attachment, free, adnexed, adnate, sinuate, decurrent.

Distant or crowded, entire, branched, forked, connected by veins.

Surface—smooth, powdery, marked in any way.

Color—young and old.

Texture—thick, thin, tough, brittle, etc.

Margin—entire, wavy, scalloped, toothed, fringed.

If tubes; color of body and mouth, length, size, whether mouth entire, toothed or lacerate.

Flesh. Soft, watery, corky, coriaceous, woody, etc.
Color—in general; just beneath the skin; of context.
Juice—taste, color, whether changeable on exposure.

Stem. Texture—tough, flexuous, fragile, fleshy.
Shape—tapering either way, straight, curved, crooked, twisted, etc.
Exterior—cartilaginous, fibrous or not, etc.
Color and markings—striate, dotted, pruinose, fibrillose, floccose or smooth, etc.
Interior—hollow, solid, stuffed, fistulose, etc.
Base—shape, markings, inserted or radicating, etc.

Mycelium. Thread-like, cottony, compact, root-like, sclerotoid; color.

Veil. Present or absent, arachnoid or woven; fragile, persistent, evanescent, etc.

Ring. Present or absent, position, character, permanent or fugacious.

Volva. Present or absent, persistent or disappearing, splitting at the apex or circumscissile, granular or floccose.

Spores. Color in mass.

Habitat. If on trees, shrubs, branches, twigs, logs, stumps—kind: dead or living.

If on the ground—wet, dry, soil, woods, fields, pastures, etc.; under or near what trees.

Manner of growth. Solitary, in clusters, troops, caespitose or concrescent.

DESCRIPTION OF GENERA AND SPECIES

HYMENOMYCETES.

KEY TO CHICAGO FAMILIES AND GENERA.

Hymenium not an even surface, but
- on radiating lamellae, these usually inferior in position. . Fam. I. AGARICACEAE
- lining the interior of tubes or pores. . . . . Fam. II. POLYPORACEAE
- covering needle-shaped or other fleshy protuberances. . Fam. III. HYDNACEAE

Hymenium even, and
- inferior, plant tough. . . . . Fam. IV. THELEPHORACEAE
- on all sides of the upper parts of erect fleshy clubs or dense branches, plant tender. . . . . Fam. V. CLAVARIACEAE
- on the outer surface of a gelatinous mass . . . . . Fam. VI. TREMELLACEAE

FAM. I. AGARICACEAE.

Spores white or whitish (in a few cases slightly tinted) . . 1
Spores rosy, rusty pink, or salmon color. 13
Spores ochraceous or subferruginous. 19
Spores black, dark brown, or purplish-brown 25

1 Pileus more or less fleshy, putrescent. 2
Pileus fleshy-tough, or even corky, not putrescent, reviving with moisture 11

2 Stem fleshy, separating easily from the pileus. 3
Stem fleshy or fibrous-elastic, confluent with and of the same structure as the pileus 4
Stem cartilaginous, confluent with the pileus, but of a different structure. 7

3 With volva and annulus . . . . . Amanita.
With volva, annulus wanting. . . . . Amanitopsis.
Without volva, annulus present. . . . . Lepiota.

4 Without volva or annulus. 5
Without volva, with annulus, lamellae attached to the stem. . . . . Armillaria.

5 Lamellae sinuate. . . . . Tricholoma.
Lamellae decurrent. 6

6 Edge of lamellae acute. . . . . Clitocybe.
Lamellae often branched, edge obtuse . . . . . Cantharellus.

7 Lamellae adnate, margin of pileus at first involute . . . . . Collybia.
Lamellae sinuate, margin of pileus at first straight. . . . . Mycena.
Lamellae decurrent, pileus usually umbilicate. Omphalia.

8	Trama vesciculose, substance of pileus rigid-fragile	9
9	Lamellae with a milky juice	Lactarius.
	Lamellae juiceless, plant rigid and brittle	Russula.
	Lamellae waxy when mature	Hygrophorus.
10	Stem lateral or wanting	Pleurotus.
11	Stem central; plants tough, fleshy or leathery	Marasmius.
	Stem lateral or wanting	12
12	Lamellae serrate or eroded on the edge	Lentinus.
	Lamellae entire	Panus.
	Lamellae anastomosing	Lenzites.
	Lamellae split longitudinally, the laminae revolute	Schizophyllum.

SPORES ROSY, ETC.

13	Stem central	14
	Stem lateral, eccentric or none	Claudopus.
14	Stem fleshy, separating easily from the pileus	15
15	With volva	Volvaria.
	Without a volva	Pluteus.
16	Stem fleshy or fleshy-fibrous, confluent with the pileus	17
17	Lamellae adnate or sinuate	Entoloma.
	Lamellae decurrent	Clitopilus.
18	Stem cartilaginous:	
	Lamellae slightly attached	Leptonia.
	Lamellae decurrent	Eccilia.

SPORES OCHRACEOUS, ETC.

19	Stem central	20
	Stem lateral or none	Crepidotus.
20	Stem fleshy, plant with an arachnoid universal veil	Cortinarius.
	Stem fleshy, without an arachnoid veil	21
	Stem cartilaginous	24
21	Lamellae anastomosing	Paxillus.
	Lamellae not anastomosing	22
	With an annulus	Pholiota.
	Without an annulus	23
23	Lamellae subsinuate, surface of pileus silky or fibrillose	Inocybe.
	Lamellae subsinuate, surface of pileus glabrous, viscid	Hebeloma.
	Lamellae adnate or decurrent	Flammula.
24	Pileus fleshy, margin inflexed	Naucoria.
	Pileus slightly fleshy, viscid, margin straight	Pluteolus.
	Pileus membranaceous, striate, margin straight	Galera.

SPORES BLACK, ETC.

25	Spores with a brownish or purplish tint	26
	Spores black or nearly so	29

26	With an annulus	27
	Without an annulus	28
27	Lamellae free	Agaricus.
	Lamellae adnate	Stropharia.
28	Lamellae sinuate, cortina often fringing the margin of the pileus, stem fleshy	Hypholoma.
	Lamellae adnate, stem cartilaginous	29
29	Margin of pileus incurved when young	Psilocybe.
	Margin of pileus always straight	Psathyra.
30	Lamellae deliquescent	Coprinus.
	Lamellae not deliquescent	31
31	Pileus fleshy, margin not striate, ring wanting	Panaeolus.
	Pileus as in Panaeolus, ring present	Anellaria.
	Pileus membranaceous or slightly fleshy, striate or sulcate	Psathyrella.
	Pileus fleshy, lamellae decurrent, subgelatinous	Gomphidius.

Fam. II. Polyporaceae.

1	Plant fleshy, putrescent, stem central or nearly so	2
	Plant coriaceous, horny or woody (fleshy in some species of Polyporus but becoming dry)	3
2	Tubes long, easily separable from the pileus and from each other	Boletus.
	Tubes less easily separable, pileus and stem squarrose-squamose	Strobilomyces.
	Tubes with mouths distinct from each other; stem lateral	Fistulina.
	Tubes in radiating rows, not easily separable, stem often eccentric	Boletinus.
3	Tubes in a distinct layer, preformed, not separable, not stratose; fleshy or tough but not woody; stipitate or sessile	Polyporus.
	Tubes as in Polyporus but usually stratose; pileus woody from the first, usually sessile	Fomes.
	Tubes as in Polyporus, not stratose, developing from the center outward toward the margin of the cap; coriaceous or membranaceous	Polystictus.
	Tubes as in Polyporus or Polystictus; plant resupinate, effused, with no true pileus; waxy, coriaceous or membranaceous	Poria.
	Tubes extending to unequal depths into the substance of the pileus, not forming a distinct stratum; sub-cylindrical, corky, not stratose, sessile or resupinate	Trametes.
	Tubes as in Trametes, but sinuous to labyrinthiform; corky, not stratose, sessile	Daedalea.

Tubes replaced wholly or in part by concentric lamellae; these becoming lacerate or polyporoid.....Cyclomyces.
Tubes reduced to shallow, alveolar, more or less radially arranged shallow pores; pileus fleshy-tough, subsessile or short-stemmed..Favolus.
Tubes in the form of shallow pores formed by reticulating folds of the hymenium; resupinate, effused, waxy or gelatinous.....Merulius.
Tubules distinct, at first as papillae arising from a mycelial mat, then elongate and tubular.....Porothelium.
Tubes cylindric, distinct from each other, membranaceous, crowded, closed at first..Solenia.

FAM. III. HYDNACEAE.

Fleshy or corky, pileate or resupinate; teeth distinct, awl-shaped or needle-shaped, acute.....Hydnum.
Leathery or woody; teeth concrete with the pileus, regularly arranged but not uniform in shape.....Irpex.
Resupinate; with irregular, subcylindrical, obtuse tubercles.....Radulum.
Resupinate; fleshy, hymenium corrugated in crests, folds or ridges.....Phlebia.
Resupinate; subiculum of woven fibers bearing crested warts or granules.....Odontia.

FAM. IV. THELEPHORACEAE.

Pileus fleshy or membranaceous, often infundibuliform; hymenium ribbed, or sometimes rugulose.....Craterellus.
Plants leathery, pileate or resupinate; hymenium even or slightly ribbed, not cracked in drying.....Thelephora.
Plants leathery or woody, pileate, effused-reflexed or resupinate; hymenium even, smooth, underlaid by an intermediate fibrous stratum.....Stereum.
Like Stereum, but hymenium velvety from smooth, colored bristles.....Hymenochaete.
Pileus resupinate, or with the margin reflexed; hymenium waxy, with no intermediate layer, often cracked when dry.....Corticium.
Plants resupinate, leathery or somewhat fleshy; hymenium velvety with exserted, hyaline, cellular processes.....Peniophora.
Plants resupinate, membranaceous; hymenium fleshy, pulverulent with colored spores.Coniophora.
Plants floccose-collapsing or like a mould and resupinate; basidia on long lax hyphae....Hypochnus.

FAM. V. CLAVARIACEAE.

Plants fleshy, branched or simple; branches typically terete, not splitting.....Clavaria.
Plants cartilaginous-gelatinous, horny when dry, simple or branched.....Calocera.

FAM. VI. TREMELLACEAE.

Plants spathulate or club-shaped, cartilaginous-gelatinous.....Guepinia.
Plants cupular, truncate or effused, often papillose.....Exidia.
Plants pulvinate or effused-cerebriform or mesenteriform.....Tremella.

AMANITA.

Plants with a volva and annulus; hymenophore distinct from the fleshy stem; lamellae free, adnexed, with a decurrent tooth, or slightly striate-decurrent. All growing on the ground. Spores white.

KEY TO CHICAGO SPECIES.

Plant not changing color where wounded..... 1
Plant changing color where wounded..... 6
1. Volva splitting irregularly, border free..*A. phalloides.*
2. Volva circumscissile, breaking up into scales or rings..... 3
3. Spores ellipsoidal, pileus 5 to 10 cm. broad.....*A. muscaria.*
   Spores globose, pileus 2.5 to 5 cm. broad.*A. Frostiana.*
4. Volva circumscissile, border nearly entire..... 5
5. Base of stem not bulbous.....*A. pantherina.*
   Base of stem abruptly bulbous.....*A. abrupta.*
6. Volva wholly friable, often disappearing..*A. rubescens.*

Amanita phalloides Fr.

Pileus fleshy, ovate-campanulate then expanded, obtuse, covered with a pellicle which is viscid in wet weather, naked or with a few fragments of the volva upon its surface, margin even.

Lamellae free, ventricose, white.

Stem bulbous, stuffed then somewhat hollow, smooth, white or pallid; ring superior, reflexed, white; volva splitting irregularly at the apex, the border lax. Spores globose, 7 to 9 μ.

Pileus 7.5 to 10 cm. broad, color white, grayish, olive or umber; stem 7.5 to 12.5 cm. high, 1 cm. or more thick.

Solitary. In woods throughout our district. Frequent from July to September. Very poisonous. Several cases of fatal poisoning have occurred near Chicago through mistaking it for some edible species. Popularly known as the "Deadly Amanita." (For a good account of the nature and treatment of Amanita poisoning, see Carter, in McIlvane, Am. Fung. Ed. 2, p. 621. For excellent figures of this and related species, see Atkinson, Studies of American Fungi, p. 52.)

Late in the season a form occurs with the pileus whitish, becoming fuliginous toward the center of the disk. The variety with the pileus wholly white and volva closely sheathing the base of the stem (*A. verna Bull.*) also occurs.

Amanita muscaria L.

Pileus at first red, then orange-tawny or yellowish, becoming pale when old, globose then convex, at length expanded, sprinkled with thick, angular fragments of the volva, margin slightly striate; flesh white.

Lamellae reaching the stem and decurrent in lines upon it, crowded, broader in front, white.

Stem shining white, firm, torn into scales, stuffed then hollow, bulbous at the base which is marginate with concentric scales or interrupted rings formed by the splitting volva. Ring soft, torn, inserted at the apex of the stem. Spores broadly elliptical, 7.5 to 10 μ. long.

Pileus up to 10 cm. broad; stem 8 to 15 cm. high, 1 to 1.5 cm. thick.

Woods, throughout. Often with *A. phalloides*, and like it very poisonous. Popularly known as the "Fly Agaric" from the fact that it will kill flies that feed upon it, a property which we have verified by experiment.

Amanita Frostiana Pk.

Pileus convex or expanded, bright orange or yellow, warty, sometimes nearly or quite smooth, striate on the margin.

Lamellae free, white or slightly tinged with yellow.

Stem white or yellow, stuffed, bearing a slight, sometimes evanescent annulus, bulbous at the base, the bulb slightly margined by the volva. Spores globose, 7.5 to 10 μ.

Pileus 2.5 to 5 cm. broad; stem 5 to 7.5 cm. long, about 4 mm. thick.

In woods, Winfield, Lisle and Glencoe. July. Not easily distinguished from small forms of *A. muscaria*. Separated from the latter species by Prof. Peck, on account of the globose spores and smaller size.

Amanita pantherina DC.

Pileus commonly olivaceous-umber when young, fleshy, convex then flattened or somewhat depressed, with a viscous pellicle which is at first thick and olivaceous-fuscous then thinned out, almost disappearing and livid, the disk only becoming fuscous, margin striate, the fragments of the volva divided into small, equal, white, regularly arranged, moderately persistent warts; flesh white.

Lamellae free, reaching the stem, broader in front, shining white. Ring more or less distant, adhering obliquely, white, rarely superior.

Stem at first stuffed then hollow with spider-web fibrils within,

equal or attenuated upwards, slightly firm, greaved at the base by the separable volva which has an entire or obtuse margin.

Pileus 10 cm. broad; stem 7.5 to 10 cm. high, 1 to 1.5 cm. thick.

Ground in woods, Glen Ellyn. August. Spores in our plants broadly elliptical, 8 to 9 x 5 to 6 μ.

Amanita abrupta Pk.

Pileus thin, broadly convex or nearly plane, covered with small angular or pyramidal, erect, somewhat evanescent warts, white, slightly striate on the margin; flesh white.

Lamellae moderately close, reaching the stem and sometimes terminating in slightly decurrent lines upon it, white.

Stem slender, glabrous, solid, bulbous, white, the bulb abrupt, subglobose, often coated below by the white persistent mycelium; the ring membranous, persistent. Spores broadly elliptical or subglobose, 8 to 10 x 6 to 8 μ.

Pileus 5 to 10 cm. broad; stem 6 to 10 cm. long, 6 to 8 mm. thick.

Woods, Winfield. August. The small, pyramidal warts are more numerous toward the center of the pileus. The volva wholly disappears. The globose bulb in our specimens is 2.5 cm. or more in diameter.

Amanita rubescens Fr.

Pileus warty, even, but slightly striate on the margin, more or less tinged with dingy-red or brownish-red.

Lamellae white or whitish, narrowed behind.

Stem equal or slightly tapering upwards, squamulose, stuffed or hollow, thickened or bulbous at the base, slightly striate at the top, annulate, whitish or pallid; flesh becoming reddish when wounded.

Spores elliptical, 7.5 to 9 x 5 to 6 μ. Pileus 7.5 to 10 cm. broad; stem 10 to 15 cm. high, 8 to 12 mm. thick. The volva is wholly friable, and often disappears from the base of the stem or bulb.

Woods, throughout, but not common. Gregarious, occasionally somewhat caespitose. Sometimes very large. Plants were found in woods at Glen Ellyn and Winfield, in 1902, with the pileus measuring 17 cm. or more in width, and with the stem 3 cm. thick. One specimen had the lamellae abortive and stem torn into large scales. Another consisted only of a somewhat flattened, obconic stem, 15 cm. long, 20 cm. in circumference, the pileus reduced to a mere border and gills wholly wanting.

AMANITOPSIS.

Plants with a volva but no annulus; hymenophore distinct from the fleshy stem; lamellae free or adnexed. All growing on the ground. Spores white.

KEY TO SPECIES.

Margin of pileus even, lamellae adnate.....*A. adnata.*
Margin of pileus deeply sulcate, lamellae free..*A. vaginata.*

Amanitopsis adnata Smith.

Pileus pale buff-yellow, fleshy, very firm, almost rigid, somewhat moist, convex then expanded, buff beneath the cuticle, margin extending beyond the lamellae.

Lamellae adnate, crowded, white.

Stem stuffed then hollow, pale buff, fibrillose; volva lax, adnate or almost obsolete, white, pubescent, remaining in wooly patches on the pileus.

Spores 10 x 8 μ. Pileus 6 to 7.5 cm. broad; stem 5 to 10 cm. high, 1.5 cm. thick.

Wooded sand dunes at the head of Lake Michigan, Millers, Ind. June.

Amanitopsis vaginata Bull.

Pileus thin, slightly fleshy, campanulate then flattened, obtuse and even, smooth or with a few fragments of the volva adhering, margin wholly membranaceous and deeply sulcate-striate.

Lamellae free, ventricose, not much crowded, shining white or becoming pale.

Stem hollow with spider-web fibrils within, attenuated equally from the base; volva wholly free, sheathing, lax, fragile. Color variable, white, livid, mouse-gray or tawny-yellow.

Spores sphaeroid or subsphaeroid, 8 to 10 μ. Pileus 5 to 12.5 cm. broad; stem 15 to 20 cm. high, 5 to 2 cm. thick.

In woods, throughout. July to September. Usually solitary. Edible, but not especially recommended on account of the thinness of the flesh.

LEPIOTA.

Plants with an annulus but no volva; hymenophore distinct from the fleshy stem; lamellae free, often remote; annulus often moveable; pileus usually scaly. Growing on the ground. Spores white (greenish in *L. Morgani*).

Margin of pileus even..... 1
Margin of pileus more or less striate..... 7
1. Ring movable on the stem..... 2
Ring fixed..... 3
2. Lamellae whitish.....*L. procera.*
2. Lamellae greenish.....*L. Morgani.*
3. Pileus beset with erect scales..... 4
4. Pileus ferruginous-fuscous.....*L. Friesii.*
4. Pileus whitish or yellowish.....*L. acutesquamosa.*
3. Pileus with fibrillose or floccose appressed scales..... 5
5. Scales soon disappearing near the margin.....*L. cristata.*
5. Scales everywhere persistent.....*L. rubrotincta.*

3. Pileus with furfuraceous or granular scales..... 6
   6. Pileus white, dry.....*L. naucina.*
   6. Pileus white, viscid.....*L. illinita.*
   6. Pileus reddish-brown.....*L. granulosa.*
   7. Pileus pallid or brown, scales brownish.....*L. metulaespora.*
   7. Pileus white, scales reddish-brown....*L. americana.*
   7. Pileus white, scales white, floccose...*L. caepestipes.*

Lepiota procera Scop.—(Plate I.)

Pileus at first ovate, then broadly convex or expanded, strongly umbonate, scaly or spotted from the breaking up of the cuticle, whitish, alutaceous or brownish, the deflexed margin generally silky-fibrillose; flesh soft, white.

Lamellae close, free or remote, whitish, sometimes tinged with yellow or pink.

Stem tall, cylindrical or slightly tapering upwards, bulbous, hollow, squamose or furfuraceous, colored like the pileus, sometimes spotted; annulus thick, firm, movable, white.

Spores large, ellipsoid, 14 to 17.5 x 9 to 11 μ. Pileus 7 to 15 cm. broad; stem 12 to 25 cm. long, 8 to 12 mm. thick.

Open woods throughout our district. Infrequent and scattered. A plant collected by Mr. C. S. Raddin in Niles woods, 1898, was 2.5 dm. high, with pileus 13 cm. in diameter.

Lepiota Morgani Pk.

Pileus fleshy, soft, at first subglobose then expanded or even, depressed, white, the brownish or alutaceous cuticle breaking up into scales except upon the disk.

Lamellae close, lanceolate, remote, white then green.

Stem firm, equal or tapering upwards, subbulbous, smooth, webby-stuffed, whitish tinged with brown; annulus rather large, movable; flesh of both pileus and stem white, changing to reddish then yellowish when cut or bruised.

Spores ovate or subellipsoid, mostly uninucleate, 10 to 12 x 7.5 to 8 μ. Pileus 12 to 22 cm. broad; stem 15 to 20 cm. high, 12 to 25 mm. thick.

Open grassy places and in gardens; usually infrequent but occasionally locally abundant. In October, 1898, several hundred plants were found in a pasture a mile west of Wheaton. The ground was low, formerly a pond, but reclaimed by draining two years previously. The usual diameter of these plants was from 10 to 15 cm. In a number of instances they grew in crescentic lines or incomplete rings. Very large specimens with pilei measuring 22 to 28 x 30 to 35 cm. in diameter have been found in shaded places in gardens in Wheaton. The pileus in these is usually elliptic in outline.

Although eaten with safety by some persons, this species is poisonous to others, causing vomiting and purging. On this account, and for the reason that it is not particularly appetizing, it is well to avoid it altogether as an article of diet. (For an account

of the poisonous properties of the species, see Asa Gray Bulletin, 1900, p. 87.)

Lepiota Friesii Lasch.—(Plate II, Fig. 1.)

Pileus ferruginous-fuscous, fleshy, torn into appressed, tomentose scales.

Lamellae somewhat remote, linear, very crowded, branched.

Stem hollow with a webby pith, somewhat bulbous, scaly; annulus superior, pendulous.

Pileus 2.5 to 10 cm. broad; stem 5 to 12 cm. high, 4 to 10 mm. thick.

Woods, Glencoe. Also grassy places in parks. Spores oblong, blunt at both ends, 6 to 7 x 3 to 4 μ.

Lepiota acutesquamosa Weinm.

Pileus fleshy, obtuse, at first hairy-floccose, then echinate with erect acute squarrose scales, white or yellowish.

Lamellae approximate, lanceolate, simple.

Stem somewhat stuffed, stout, bulbous, pruinose above the moderate sized annulus.

Spores oblong, 7.5 x 3 to 4 μ. Pileus 2.5 to 10 cm. broad; stem 5 to 12 cm. high, 4 to 10 mm. thick.

Ground in thickets, River Forest. July. Plants about 3.5 cm. broad; stems 6.5 cm. long. The erect scales are blackish; the stem scarcely bulbous.

Lepiota cristata A. & S.

Pileus slightly fleshy, campanulate, obtuse, cuticle at first contiguous, then seceding in subgranulose scales.

Lamellae free, at length remote, white.

Stem slender, equal, hollow, silky-fibrillose; the annulus seceding.

The surface of the pileus at first is even, reddish or reddish-brown, then white adorned with reddish or reddish-brown scales formed by the breaking up of the cuticle, the disk colored like the scales.

Spores oblong or narrowly subellipsoid, 5 to 7 x 3 to 4 μ. Pileus 1.5 to 4 cm. broad; stem 2.5 to 5 cm. high, 2 to 4 mm. thick.

Ground under trees in woods, usually among dead leaves. July to September. Odor offensive. The conspicuous white mycelium often extends a distance of 5 to 8 cm. from the base of the stem, but is not compacted about the base of the plant.

Lepiota rubrotincta Pk.

Pileus thin, convex or nearly plane, sometimes slightly and broadly umbonate, at first even with a reddish or pinkish surface, a little darker and sometimes slightly rough on the disk, then adorned with appressed scales formed by the breaking up of the cuticle.

Lamellae close, free, white or whitish.

Stem hollow, equal or slightly thickened at the base, smooth or slightly silky-fibrillose below the annulus, whitish; the annulus well developed, membranous, white or pinkish, persistent.

Spores subellipsoid, uninucleate, 9 to 11 x 5 to 6 μ. Pileus 2.5 to 6 cm. broad; stem 4 to 9 cm. long, 4 to 6 mm. thick.

Woods near Chicago. Harper.

Lepiota illinita Fr.

Pileus slightly fleshy, ovate then campanulate or expanded, subumbonate, viscid, smooth, white.

Lamellae close, free, shining white.

Stem equal or slightly tapering upward, stuffed then hollow, viscid, white.

Spores ellipsoid, 5 x 4 μ. Pileus 2.5 to 6 cm. broad; stem 5 to 7.5 cm. long.

Under trees in woods. When young, the whole plant is pure white. Sometimes the disk becomes pallid or fuscous with age.

Lepiota naucina Fr.

Pileus globose then expanded and almost plane, somewhat umbonate and smooth in the center, white; cuticle thin, glabrous or breaking up into evanescent granules; flesh thick, soft.

Lamellae approximate, free, white.

Stem somewhat hollow, enlarged at the base; ring superior, thin, delicate, persistent.

Spores subglobose, 6 to 7 u. in diameter (Massee); obovate, white, with an oily, straw-colored nucleus, 8 to 9 x 6 μ (Bres.)

Plant sometimes a delicate tan, the gills assuming a dirty pinkish hue. Edible. Taste mild and pleasant.

Lawns, grassy places in streets, roadsides and waste grounds. June to September. Often locally abundant in the parks after rains. Pileus 4 to 9 cm. broad, stem 5 to 10 cm. high, 6 to 10 mm. in diameter. The pileus has the texture and color of slightly soiled white kid-leather. Professor Peck in Rep. N. Y. Mus. 35: 160, describes the American counterpart of this species as *Lepiota naucinoides*, and in Rep. 54: 162, he states that "by disregarding the spore characters our plant has sometimes been referred to *L. naucinus* and sometimes to *Agaricus cretaceus* Fr." The spores of *L. naucinoides* are described as "subelliptical, uninucleate, 7.5 to 10 x 5 to 7.5 μ." Those of our plants vary from elliptical (7 to 8 x 4 to 5 μ.) to subglobose (5 to 7 μ.). It does not appear therefore that a distinction based upon the shape of the spores is applicable to them. There is an excellent figure of the species in Bres. Funghi Mang. e Vel., Tav. XV. See also Morgan, Journ. Myc. 13: 10, where the plant is given as *L. naucinoides*.

Lepiota granulosa Batsch.

Pileus ferruginous or reddish-brown, convex then flattened, obtusely umbonate, furfuraceous, granular; flesh white or tinged with red.

Lamellae close, rounded behind, slightly adnexed, white.

of the poisonous properties of the species, see Asa Gray Bulletin, 1900, p. 87.)

Lepiota Friesii Lasch.—(Plate II, Fig. 1.)

Pileus ferruginous-fuscous, fleshy, torn into appressed, tomentose scales.

Lamellae somewhat remote, linear, very crowded, branched.

Stem hollow with a webby pith, somewhat bulbous, scaly; annulus superior, pendulous.

Pileus 2.5 to 10 cm. broad; stem 5 to 12 cm. high, 4 to 10 mm. thick.

Woods, Glencoe. Also grassy places in parks. Spores oblong, blunt at both ends, 6 to 7 x 3 to 4 μ.

Lepiota acutesquamosa Weinm.

Pileus fleshy, obtuse, at first hairy-floccose, then echinate with erect acute squarrose scales, white or yellowish.

Lamellae approximate, lanceolate, simple.

Stem somewhat stuffed, stout, bulbous, pruinose above the moderate sized annulus.

Spores oblong, 7.5 x 3 to 4 μ. Pileus 2.5 to 10 cm. broad; stem 5 to 12 cm. high, 4 to 10 mm. thick.

Ground in thickets, River Forest. July. Plants about 3.5 cm. broad; stems 6.5 cm. long. The erect scales are blackish; the stem scarcely bulbous.

Lepiota cristata A. & S.

Pileus slightly fleshy, campanulate, obtuse, cuticle at first contiguous, then seceding in subgranulose scales.

Lamellae free, at length remote, white.

Stem slender, equal, hollow, silky-fibrillose; the annulus seceding.

The surface of the pileus at first is even, reddish or reddish-brown, then white adorned with reddish or reddish-brown scales formed by the breaking up of the cuticle, the disk colored like the scales.

Spores oblong or narrowly subellipsoid, 5 to 7 x 3 to 4 μ. Pileus 1.5 to 4 cm. broad; stem 2.5 to 5 cm. high, 2 to 4 mm. thick.

Ground under trees in woods, usually among dead leaves. July to September. Odor offensive. The conspicuous white mycelium often extends a distance of 5 to 8 cm. from the base of the stem, but is not compacted about the base of the plant.

Lepiota rubrotincta Pk.

Pileus thin, convex or nearly plane, sometimes slightly and broadly umbonate, at first even with a reddish or pinkish surface, a little darker and sometimes slightly rough on the disk, then adorned with appressed scales formed by the breaking up of the cuticle.

Lamellae close, free, white or whitish.

Stem hollow, equal or slightly thickened at the base, smooth or slightly silky-fibrillose below the annulus, whitish; the annulus well developed, membranous, white or pinkish, persistent.

Spores subellipsoid, uninucleate, 9 to 11 x 5 to 6 μ. Pileus 2.5 to 6 cm. broad; stem 4 to 9 cm. long, 4 to 6 mm. thick.

Woods near Chicago. Harper.

Lepiota illinita Fr.

Pileus slightly fleshy, ovate then campanulate or expanded, subumbonate, viscid, smooth, white.

Lamellae close, free, shining white.

Stem equal or slightly tapering upward, stuffed then hollow, viscid, white.

Spores ellipsoid, 5 x 4 μ. Pileus 2.5 to 6 cm. broad; stem 5 to 7.5 cm. long.

Under trees in woods. When young, the whole plant is pure white. Sometimes the disk becomes pallid or fuscous with age.

Lepiota naucina Fr.

Pileus globose then expanded and almost plane, somewhat umbonate and smooth in the center, white; cuticle thin, glabrous or breaking up into evanescent granules; flesh thick, soft.

Lamellae approximate, free, white.

Stem somewhat hollow, enlarged at the base; ring superior, thin, delicate, persistent.

Spores subglobose, 6 to 7 u. in diameter (Massee); obovate, white, with an oily, straw-colored nucleus, 8 to 9 x 6 μ (Bres.)

Plant sometimes a delicate tan, the gills assuming a dirty pinkish hue. Edible. Taste mild and pleasant.

Lawns, grassy places in streets, roadsides and waste grounds. June to September. Often locally abundant in the parks after rains. Pileus 4 to 9 cm. broad, stem 5 to 10 cm. high, 6 to 10 mm. in diameter. The pileus has the texture and color of slightly soiled white kid-leather. Professor Peck in Rep. N. Y. Mus. 35: 160, describes the American counterpart of this species as *Lepiota naucinoides*, and in Rep. 54: 162, he states that "by disregarding the spore characters our plant has sometimes been referred to *L. naucinus* and sometimes to *Agaricus cretaceus* Fr." The spores of *L. naucinoides* are described as "subelliptical, uninucleate, 7.5 to 10 x 5 to 7.5 μ." Those of our plants vary from elliptical (7 to 8 x 4 to 5 μ.) to subglobose (5 to 7 μ.). It does not appear therefore that a distinction based upon the shape of the spores is applicable to them. There is an excellent figure of the species in Bres. Funghi Mang. e Vel., Tav. XV. See also Morgan, Journ. Myc. 13: 10, where the plant is given as *L. naucinoides*.

Lepiota granulosa Batsch.

Pileus ferruginous or reddish-brown, convex then flattened, obtusely umbonate, furfuraceous, granular; flesh white or tinged with red.

Lamellae close, rounded behind, slightly adnexed, white.

Stem somewhat equal, stuffed or hollow, white above the annulus, adorned like the pileus below it; annulus slight, evanescent.

Spores elliptical, 4 to 5 x 3 to 4 μ. Pileus 2.5 to 6 cm. broad; stem 2.5 to 6 cm. long, 2 to 6 mm. thick.

Woods, frequent. August, September. The stem in our specimens is often grayish-flesh-color, contrasting sharply with the white, slightly adnexed lamellae.

Lepiota metulaespora B. & Br.

Pileus thin, campanulate or convex, subumbonate, at first with a uniform pallid or brownish surface, which soon breaks up into small brownish scales, the margin more or less striate, often appendiculate with fragments of the veil.

Lamellae pure white, close, free.

Stem slender, equal or slightly tapering upward, hollow, adorned with soft floccose scales or filaments, pallid; annulus slight, evanescent.

Pileus 1.5 to 4 cm. broad; stem 5 to 9 cm. high, 2 to 4 mm. thick.

Ground in woods, Glen Ellyn. August, September. Spores fusiform, often pointed at one or both ends, 10 to 12 x 4 μ.

Lepiota americana Pk.

Pileus rather fleshy, at first ovate then convex or expanded, umbonate, more or less striate on the margin, the cuticle breaking up, except on the umbo, into reddish or reddish-brown appressed scales, white; flesh white.

Lamellae rather broad, close, free, white, narrower toward the stem and there sometimes anastomosing.

Stem tapering upward, enlarged at or a little above the base, hollow, white; annulus rather large, but thin and flabby, sometimes separating from its attachment to the stem, occasionally evanescent.

Spores subelliptical, uninucleate, 7.5 to 10 x 5 to 7.5 μ. Pileus 4 to 10 cm. broad; stem 7.5 to 12 cm. high, 4 to 10 mm. thick.

In grassy places near Chicago. Sometimes cespitose. Harper.

Lepiota caepestipes Sow.

Pileus campanulate or convex, even, save the margin which is usually striate or sulcate, pure white or very slightly brownish only at the disk, covered with large, loose, floccose white scales which are easily rubbed off.

Lamellae free, pure white, rather broad; flesh thin, white.

Stem thickened at the base, tapering upwards, slightly enlarged at the insertion in the pileus, white-farinose but with a slight yellowish tint when the mealiness is rubbed off.

Spores subelliptical, 6 x 8 μ. Often cespitose. Pileus 2.5 to 5 cm. broad; stem 5 to 10 cm. high, 4 to 6 mm. thick.

Lawns near Chicago, Harper. Lawns, Ravenswood; September. Characterized by its dense white mealiness, bulbous stem and strong odor. Pepoon.

ARMILLARIA.

Hymenophore continuous with the stem; annulus present, but sometimes only indicated by the scales which clothe the stem terminating in the form of a ring; pileus usually smooth (often somewhat scaly in our single species *A. mellea*). All growing on the ground. Spores white.

Armillaria mellea Vahl.

Pileus fleshy, rather thin except upon the disk, at first hemispherical or subconical, then convex or nearly plane, adorned with numerous hairy squamules, mostly striate on the margin, pale yellowish, dingy-yellowish, honey-color or reddish-brown; flesh whitish, taste unpleasant.

Lamellae subdistant, adnate or decurrent, whitish or pallid, often with rufescent spots when old.

Stem equal or slightly thickened at the base, stuffed or hollow when old, sometimes floccose-squamose, externally fibrous, pallid or brownish.

Spores 7.5 to 10 x 5 to 6 μ. Pileus 2.5 to 15 cm. broad; stem 2.5 to 15 cm. long, 6 to 20 mm. thick.

Common in autumn, about the base of stumps; sometimes in large masses. The young plants occasionally have the pileus thickly beset with erect scales. These disappear with age. The species is industriously collected for food by Poles and Bohemians about Chicago. The flavor of the cooked plant is strong and unpleasant to American mushroom-eaters.

Var. radicata Pk.

Base of stump, Winfield. August, 1898. Specimens with the spindle-shaped radicating portion of the stem 5 to 9 cm. long.

TRICHOLOMA.

Hymenophore continuous with the fleshy stem; veil obsolete or only consisting of flocci which adhere to the margin of the pileus; lamellae sinuate behind; pileus often bright colored. All growing on the ground. Spores white.

Pileus viscid when moist ..... *T. Russula.*
Pileus not viscid when moist 1

1. Cuticle of the pileus torn into downy or fibrillose scales .. 2
   Cuticle of the pileus even, smooth 3
2. Pileus shining-white, stem smooth ..... *T. columbetta.*
   Pileus cinereous-fuscous, stem fibrillose .... *T. terreum.*
   Pileus brown or reddish-brown, stem fibrillose ..... *T. imbricatum*
   Pileus ochraceous or tawny, stem tomentose-squamulose ..... *T. decorosum.*
3. Pileus white ..... *T. album.*
   Pileus violaceous or livid ..... *T. personatum.*

Tricholoma Russula Schaeff.

Pileus fleshy, convex, becoming plane or centrally depressed, viscid, even or dotted with granular squamules on the disk, rosy-red; flesh white, taste mild.

Lamellae subdecurrent, white.

Stem solid, firm, rosy, apex squamulose.

Pileus 7 to 12 cm. broad; stem 2.5 to 5 cm. long, 12 to 16 mm. thick.

Near Warrenville, October. The interior of the stem is wholly fibrous, the fibers at the apex being diffused into the flesh of the pileus.

Tricholoma columbetta Fr.

Wholly shining white. Pileus fleshy, firm, convex, obtuse, flexuous, dry, at first smooth, then silky-fibrillose and becoming even or squamulose, the margin, which is inflexed when young, tomentose.

Lamellae somewhat emarginate, almost free, linear, persistently shining white.

Stem short or long, solid, wholly fleshy and compact, commonly unequal.

Pileus 5 to 10 cm. broad; stem 7.5 to 10 cm. long, up to 2.5 cm. thick.

On the ground among dead leaves. Winfield and Glen Ellyn. October. Stems occasionally up to 15 cm. long, very irregular. Spores variable in size, ellipsoid, 6 to 8 x 3 to 5 μ.

Tricholoma terreum Schaeff.

Pileus fleshy, thin, soft, convex, campanulate or nearly plane, obtuse or umbonate, innately fibrillose or floccose-squamose, cinereous-fuscous, grayish-brown or mouse-color; flesh white or whitish.

Lamellae adnexed, subdistant, more or less eroded on the edge white becoming cinereous.

Stem equal, varying from solid to stuffed or hollow, fibrillose, white or whitish.

Spores broadly elliptical, 6 to 7 x 4 to 5 μ. Pileus 2.5 to 7.5 cm. broad; stem 2.5 to 5 cm. long, 4 to 8 mm. thick. September to November.

Rotten stump, Naperville, May. Pepoon.

Tricholoma imbricatum Fr.

Pileus fleshy, compact, convex or nearly plane, obtuse, dry, innately squamulose, fibrillose toward the margin, brown or reddish-brown, the margin thin, at first slightly inflexed and pubescent then naked; flesh firm, white.

Lamellae slightly emarginate, almost adnate, rather close, white when young, becoming reddish or spotted.

Stem solid, firm, nearly equal, fibrillose, white and mealy or pulverulent at the top, elsewhere colored like the pileus.

Spores 6 x 4 to 5 μ. Pileus 5 to 10 cm. broad; stem 5 to 7.5 cm. long, 8 to 16 mm. thick.

Woods, Millers, Ind., October, 1902. A. S. Bertolet. Mr. Bertolet notes that the farinaceous odor and taste attributed to the species, are not noticeable in the plants collected by him.

Tricholoma decorosum Pk.

Pileus firm, hemispherical then convex or nearly plane, adorned with numerous brownish subsquarrose tomentose scales, dull ochraceous or tawny; flesh white.

Lamellae close, rounded and slightly emarginate behind, the edge suberenulate.

Stem solid, equal or slightly tapering upward, white and smooth at the top, elsewhere tomentose-squamulose, colored like the pileus.

Spores broadly elliptical, 5 x 4 μ. Pileus 2.5 to 5 cm. broad; stem 5 to 10 cm. long, 4 to 8 mm. thick. Decaying trunks of trees.

Woods, Glencoe. October, 1902. Harper and Bertolet.

Tricholoma album Schaeff.

Pileus fleshy, tough, convex, becoming plane or depressed, obtuse, very dry, even, glabrous, white, sometimes yellowish on the disk, rarely wholly yellowish, the margin at first involute; flesh white, taste acrid or bitter.

Lamellae emarginate, somewhat crowded, distinct, white.

Stem solid, elastic, equal or tapering upwards, externally fibrous, obsoletely pruinose at the apex, white.

Spores ellipsoid, 5 to 6 μ. long.

Pine barrens at the head of Lake Michigan, Calumet Heights, Ind. August, 1899. Pileus 5 to 10 cm. broad; stem 5 to 10 cm. long, 8 to 12 mm. thick. Also collected in woods at Winfield. Pileus uneven in outline, margin sometimes irregularly waved in large specimens.

Tricholoma personatum Fr.

Pileus compact, becoming soft, thick, convex or plane, obtuse, regular, moist, glabrous, variable in color, generally pallid or cinereous tinged with violet or lilac, the margin at first involute and villose-pruinose; flesh whitish.

Lamellae broad, crowded, rounded behind, free, violaceous becoming sordid-whitish or fuscous.

Stem generally thick, subbulbous, solid, fibrillose or villose-pruinose, whitish or colored like the pileus.

Spores sordid white, subellipsoid, 7.5 to 9 x 4 to 5 μ. Pileus 5 to 12.5 cm. broad; stem 2.5 to 7.5 cm. long, 12 to 25 mm. thick.

On the ground in woods, Glencoe. October. The stem in our plant can scarcely be called "subbulbous." It is enlarged downward into a broad truncate base. The spores are creamy-white, 6 to 7 x 3 to 4 μ.

Among dead leaves in woods, Glen Ellyn. September. These plants are unicolorous, varying from a beautiful heliotrope to whitish-livid.

Prof. Peck suggests (Rep. N. Y. Mus. 54: 165), that this species is probably identical with his *Entoloma graveolens*.

CLITOCYBE.

Universal veil, when present, conspicuous on the pileus like frost or silky dew, but commonly obsolete; stem with a spongy stuffing, apt to become hollow, somewhat elastic; margin of the pileus involute; hymenophore continuous, owing to the apex of the stem being dilated; lamellae acute at the edges, attenuated behind, adnate or decurrent.

Growing on the ground, fleshy but comparatively tough. Spores white.

Plant not hygrophanous 1
Plant hygrophanous 6
1. Pileus disk-shaped, regular 2
2. Pileus white, shining when dry . . . . . *C. cerussata.*
2. Pileus whitish or pale-tan . . . . . *C. piceina.*
2. Pileus pale-yellowish with a reddish tinge . . . . . *C. socialis.*
2. Pileus with a greenish tinge, fragrant . *C. odora.*
3. Pileus irregularly shaped 4
4. Pileus whitish, grayish or yellowish-gray, stem whitish . . . . . *C. multiceps.*
4. Whole plant orange-yellow . . . . . *C. illudens.*
4. Whole plant opaque-whitish . . . . . *C. monstrosa.*
5. Pileus at length funnel-shaped . . . . . *C. infundibuliformis.*
6. Whole plant reddish-flesh-color when moist . . . . . *C. laccata.*
6. Whole plant dark-purple when moist *C. amethystina.*
6. Pileus pale-alutaceous, lamellae purple . . . . . *C. ochropurpurea.*

Clitocybe cerussata Fr.

Pileus fleshy, convex, then nearly plane, obtuse, even, minutely floccose then almost glabrous, white.

Lamellae adnate, then decurrent, very crowded, thin, white.

Stem smooth, tough, elastic, spongy, solid, white.

Among dead leaves in woods, Glen Ellyn, October. Wholly shining white. Spores sphaeroid, 4 to 5 μ.

Clitocybe piceina Peck, Bull. Torr. Cl. 31; 178. (Plate II, Fig. 2)

Pileus fleshy, firm, convex or nearly plane, dry, white or whitish tinged with gray when young; flesh compact, white, taste pungent, odor strong, disagreeable.

Lamellae close, decurrent, or sometimes strongly decurrent in lines running down the stem, creamy-white.

Stem equal or nearly so, firm, stout, solid, subfibrous, commonly striate at the top, with raised longitudinal lines. Spores globose, 5 to 6 μ.

Pileus 6 to 10 cm. broad; stem 5 to 7 cm. long, 12 to 18 mm. thick.

In the dried specimens the pileus sometimes assumes a yellowish tint. The species is closely allied to *C. cerussata* and *C. albissima*. From the former it may be separated by its larger

globose spores and from the latter by its whitish color being less clear and persistent. From both it differs in the more strongly decurrent lamellae, pungent taste and disagreeable odor.

Under a cultivated spruce tree at Wilmette. September and October, 1900 to 1904. Described by Prof. Peck, from specimens collected by Dr. L. H. Watson.

Clitocybe socialis Fr.

Pileus pale yellowish with a reddish tinge, fleshy, convex, then expanded, acutely umbonate especially when young, even, smooth, dry; flesh moderately thin, white.

Lamellae plano-decurrent, scarcely crowded, becoming yellow.

Stem solid, fibrous, commonly ascending, smooth, reddish, the rooting base hairy.

Pileus 2.5 cm. broad; stem 2.5 cm. long, 4 mm. or a little more thick.

Gregarious among dead leaves, wooded hillside, Glen Ellyn, September. The stems of our plant are frequently 3.5 to 6.5 cm. long. Remarkable for the very acute umbo of the pileus. Spores, globose, echinulate, 9 to 10 μ.

Clitocybe odora Bull.

Pileus greenish, fleshy, convex then flattened, obtuse or obsoletely umbonate, regular or repand, even, smooth, margin pubescent; flesh rather thin, dingy-white.

Lamellae adnate-decurrent, slightly distant, broad, entire, commonly paler than the pileus.

Stem stuffed, equal or enlarged downward and somewhat bulbous, at first floccose-fibrillose, soon naked, commonly white-villous at the base. Tough; with the odor of anise.

Spores ellipsoid-sphaeroid, 6 x 5 μ. Pileus, 9 cm. broad; stem 5 cm. or more long, 6 to 8 mm. thick.

Grassy places in woods; often growing on dead leaves and twigs. August to October. Spores subglobose, 6 to 7 x 4 to 5 μ. The beautiful greenish color of the pileus becomes paler as the plants mature. The characteristic odor persists for several years in herbarium specimens. The species is edible.

Clitocybe multiceps Pk.

Pileus fleshy, thin except on the disk, firm, convex, slightly moist in wet weather, whitish, grayish or yellowish-gray; flesh, white; taste mild.

Lamellae close, adnate or slightly decurrent, whitish.

Stems densely caespitose, equal or slightly thickened at the base, solid or stuffed, firm, slightly pruinose at the apex, whitish.

Pileus 2.5 to 7.5 cm. broad; stem, 5 to 10 cm. long, 6 to 12 mm. thick; spores globose, 5 to 7.5 μ.

Bank among dead leaves, open woods and railroad station grounds, Glen Ellyn, November.

Pileus silky-shining, grayish-cervine when dry; stems deformed by mutual pressure.

Clitocybe illudens Schw. (Plate III, Fig. 1.)

Pileus fleshy, convex or expanded, smooth, generally with a small umbo, often irregular, bright golden or saffron yellow.

Lamellae not crowded, unequally decurrent, some of them branched, narrowed toward each end, concolorous with the pileus.

Stem firm, solid, long, smooth, tapering at the base, colored like the pileus.

Spores globose, 4 to 5 μ. Pileus 10 to 15 cm. broad; stem 12 to 20 cm. long, 8 to 16 mm. thick.

At the base of stumps. July to October. Frequent; often growing in large clumps, conspicuous on account of the bright color. Said to cause sickness, nausea and vomiting when eaten, but is not dangerously poisonous. (For an account of the poisonous properties see Rhodora, 1889, pp. 43 and 186.)

Clitocybe monstrosa Sow.

Pileus fleshy, at first convex and umbonate, at length waved and lobed, opaque as if whitewashed, margin inflexed.

Lamellae moderately distant, scarcely rounded behind, but not truly decurrent, white or cream-colored.

Stem compressed, solid, streaked, opaque, white, tomentose-squamulose above, slightly rooting. Often densely cespitose.

On mushroom beds in a greenhouse, Chicago, April. Specimens were brought to Dr. Watson by a gardener, who found the plant growing as a "weed" in his greenhouses. They were identified by Prof. Harper. The spawn used in the beds was imported from England.

Clitocybe infundibuliformis Schaeff.

Pileus at first convex and umbonate, becoming infundibuliform, dry, flaccid, reddish or pale tan-color, fading with age.

Lamellae decurrent, white.

Stem generally tapering upward from the base, colored like or paler than the pileus.

Spores somewhat elilptical, white, 5 to 6 μ. long. Pileus 5 to 7.5 cm. broad; stem 2.5 to 5 cm. long, 6 to 12 mm. thick.

On the ground, also on dead sticks, twigs and leaves in woods. August to October. Specimens collected at Highland Park after a heavy rain, had the pileus white, changing to creamy-white as the moisture disappeared. Pileus undulate in luxuriant plants, sometimes lobed. The spores are often pip-shaped.

Clitocybe laccata Scop.

Pileus thin, fleshy, convex, sometimes expanded, even or slightly umbilicate, smooth or minutely tomentose-scaly, hygrophanous, when moist dull reddish-yellow or reddish flesh-colored, sometimes striatulate, when dry pallid or pale dull ochraceous.

Lamellae broad, rather thick and distant, attached, not decurrent, flesh-colored.

Stem slender, firm, fibrous, stuffed, equal, concolorous with the pileus.

Spores globose, rough, 7.5 to 10 μ. Pileus 12 mm. to 5 cm. broad; stem 2.5 to 15 cm. long.

Common in woods throughout our district. Very luxuriant during the rainy season of 1902. Specimens were often found measuring up to 8 cm. in diameter. Depauperate plants are found in moist places; these having the pileus only 4 to 6 mm. broad. These appear at first sight to be a different species, but connect with the ordinary form by insensible gradations. The minute plants are usually densely gregarious.

Clitocybe amethystina Bolt.

Pileus dark-purple, umbilicate, smooth, minutely tomentose, involute.

Lamellae dark-purple, broad, decurrent.

Stem fibrillose, purple, streaked with white fibrils, equal, densely covered with white tomentum at the base.

Pileus 2.5 to 3.5 cm. broad; stem, 5 to 7.5 cm. long.

Ground in woods, Riverside. Harper. Glencoe. Spores not distinguishable from those of *C. laccata*, of which it is considered a variety, although the distinctive amethystine color appears constant, both in the fresh and dried plants.

Clitocybe ochropurpurea B. & C. (Plate III, Fig. 2).

Pileus subhemispheric, at length depressed, fleshy, compact, tough, pale alutaceous, slightly turning to purplish, the cuticle easily separable, the margin inflexed, at first tomentose.

Lamellae thick, purple, broader behind, decurrent.

Stem paler than the pileus, here and there purplish, tumid in the middle.

Pileus 2 cm. broad; stem 6 cm. long, 18 mm. thick in the middle.

Dry woods, Winfield and Lombard, summer and autumn, 1898 and 1902. The species was common. During 1899, 1900 and 1901 no plants were found, although careful search was made at both stations.

Well grown specimens have a symmetrically-shaped pileus 7 to 10, sometimes as much as 15 cm. in diameter. When old, the margin is occasionally rimose, and the whole surface of the pileus broken up into large scales. The cap is often covered with the abundant spores shed from adjacent or overlying plants. Distorted specimens are common; sometimes with a fusiform stem 2.5 to 3.5 cm. in diameter in the middle, and tapering toward the apex and base, and with a pileus not more than 2.5 cm. across; at other times with a tall, cylindrical stem, or with a club-shaped stem broadening out at the apex into a pileus which is scarcely more than a border, indistinctly differentiated into gills upon its under surface; while still others have the stem curiously curved or twisted.

COLLYBIA.

Stem fistulose, cartilaginous, stuffed with a pith and coated with a cartilaginous cuticle, rooting; pileus slightly fleshy, margin at first involute; lamellae free or only obtusely adnexed behind.

Epiphytal on wood, leaves, &c., but often rooted in the ground. Spores white.

Lamellae white, yellowish or grayish 1
Lamellae dingy or cinereous 7
1. Stem stout, stuffed, grooved or striate 2
1. Stem thin, hollow or stuffed, velvety 4
1. Stem hollow, smooth, lamellae narrow, crowded 5
2. Pileus viscid when moist . . . . . *C. radicata.*
2. Pileus not viscid 3
3. Pileus fibrillose . . . . . *C. platyphylla.*
3. Pileus glabrous . . . . . *C. maculata.*
4. Stem umber, becoming black . . . . . *C. velutipes.*
4. Stem reddish . . . . . *C. confluens.*
4. Stem tawny or brownish-tawny . . . . . *C. zonata.*
5. Stem yellowish or rufescent 6
6. Lamellae crenulate, stem tapering upward . . . . . *C. butyracea.*
6. Lamellae not crenulate, stem even . . . . . *C. dryophila.*
7. Pileus dark-brown when moist . . . . . *C. alcalinolens.*
7. Pileus livid-blackish when moist . . . . . *C. ignobilis.*

Collybia radicata Relh.

Pileus fleshy but thin, convex or nearly plane, sometimes somewhat umbonate, glabrous, viscid or even glutinous when moist, often radiately wrinkled in the center, varying in color from grayish-brown to dark-brown, sometimes almost white; flesh white.

Lamellae broad, subdistant, adnexed, shining white.

Stem long, firm, glabrous, stuffed, slightly tapering upward, at length striate or grooved, colored like or paler than the pileus, ending in a long root-like extension which penetrates the earth deeply.

Spores elliptical with a slight apiculus at one end, 15 to 17 x 10 to 12 μ. Pileus 5 to 7.5 cm. broad; stem 10 to 20 cm. long, 4 to 6 mm. thick.

Solitary, in woods or in lawns where the soil is filled with the roots of trees. Common from June to frost. Edible. Small specimens with the pileus pure white, and only 2.5 to 4 cm. broad, are frequently found in shaded places in woods. The pileus in these, as in the larger plants is glutinous.

Collybia platyphylla Fr.

Pileus fuscous then cinereous, then whitish, fleshy-membranaceous, thin, fragile, soon flattened, obtuse, watery when moist, streaked with fibrils.

Lamellae obliquely truncate behind, slightly adnexed, distant, soft, white.

Stem stuffed, soft, equal, fibrillose-striate, otherwise smooth, naked or obsoletely pruinose at the apex, whitish, shortly and bluntly rooted at the base.

Spores 19 x 13 μ. Pileus 7 to 10 cm. broad; stem 8 to 10 cm. long, 1.5 cm. or more thick.

On and about the base of stumps; not rare. The plants are slightly glutinous when moist. A specimen found in woods at Lombard, June, 1900, had the pileus 16 cm. broad, stem 3 cm. thick, and lamellae 18 mm. broad. The spores are very broadly elliptical, 7.5 to 10 μ., much smaller than the measurements given by Worthington G. Smith, from the European plant.

Collybia maculata A. & S.

Pileus fleshy, firm, convex or nearly plane, even, glabrous, white or whitish, sometimes variegated with reddish spots or stains; flesh white.

Lamellae narrow, crowded, adnexed, sometimes nearly or quite free, white or whitish.

Stem generally stout, firm, equal or slightly swollen in the middle, striate, white.

Spores subglobose, 4 to 6 μ.; pileus 5 to 10 cm. broad; stem 5 to 10 cm. long, 6 to 12 mm. thick.

Moist woods. Millers, Indiana, June. Stem occasionally 15 cm. long. Our plants show sordid (not reddish) stains in drying. In the fresh specimens no stains were noticed.

Collybia velutipes Curt.

Pileus fleshy, rather thin, convex or nearly plane, obtuse, glabrous, viscid, reddish-yellow or tawny, the thin margin often wavy and irregular.

Lamellae broad, subdistant, rounded behind, slightly adnexed, whitish or yellowish.

Stem firm, externally cartilaginous, stuffed or hollow, brown or tawny-brown, densely velvety-hairy.

Spores narrowly elliptical or oblong-elliptical, 7.5 to 9 x 4 μ. Pileus 2.5 to 7 cm. broad; stem 2.5 to 9 cm. long, 2 to 8 mm. thick.

On and about decaying trunks and stumps. Often densely cespitose. A clump collected by Will McDonald, in a lumber yard at Wheaton, in November, 1899, contained over a hundred pilei. The lamellae are pal id or cream-color, becoming yellowish with age. Substance of the stem wholly fibrous, and, with the flesh of the pileus pure white within.

A specimen found on a stump of *Salix*, near Wheaton, had a fusiform radicating prolongation of the stem, extending into the ground 5 cm. The species is capable of withstanding low temperatures, and is often collected in November and December, when snow is on the ground. It is edible.

Collybia confluens Pers.

Pileus thin, tough, flaccid, convex then nearly plane, obtuse,

glabrous, hygrophanous, reddish, grayish-red or reddish-brown and often striatulate on the margin when moist, pallid or grayish when dry.

Lamellae narrow, crowded, free, whitish or yellowish-gray.

Stem cartilaginous, equal, hollow, clothed with a dense somewhat pulverulent pubescence.

Pileus 18 mm. to 4 cm. broad; stem 5 to 12 cm. long, 2 to 4 mm. thick; spores ovate or subelliptic, 5 to 6 x 3 to 4 μ.

In cespitose clusters among dead leaves in woods. Glen Ellyn and Glencoe. August and September.

Collybia zonata Pk.

Pileus fleshy, thin, convex or nearly plane, umbilicate, fibrillose-tomentose, tawny or ochraceous-tawny, sometimes marked with faintly darker zones.

Lamellae narrow, close, free, white or whitish, with a white pulverulent edge.

Stem firm, equal, hollow, fibrillose-tomentose, tawny or brownish-tawny.

Spores broadly elliptical, 5 x 4 μ. Plant commonly cespitose; pileus 12 to 25 mm. broad; stem 2.5 to 5 cm. long, about 2 mm. thick.

On dead sticks lying on the ground in moist woods, Glencoe. August. The pileus in our plants is often plainly zonate.

Collybia strictipes Pk.

Pileus thin, convex or nearly plane, glabrous, sometimes slightly rugose on the disk, moist but scarcely hygrophanous, whitish or pale yellow, paler when dry, often more deeply colored on the disk.

Lamellae thin, close, adnexed or almost free, white.

Stem equal, straight, hollow, glabrous, slightly mealy or pruinose at the top, white, often with a dense white myceloid tomentum at the base.

Spores ovate or subelliptical, pointed or subacuminate at one end, 6 to 7.5 x 4 μ. Pileus 4 to 5 cm. broad; stem, 4 to 6 cm. long, 4 to 6 mm. thick.

Growing in tufts on dead leaves in woods. August. Glen Ellyn and Glencoe. Stems very strict, often 7 or 8 cm. long.

Collybia acervata Fr.

Pileus convex then flattened and obtuse, fleshy, glabrous, reddish-brown and slightly striate on the margin when moist, paler when dry.

Lamellae at first adnexed, soon free, crowded, white.

Stem slender, rigid, fistulose, very smooth except at the base, reddish-brown.

Spores ellipsoid, 6 x 3 to 4 μ. Pileus 5 to 7 cm. broad; stem, 5 to 10 cm. high, 2 to 4 mm. thick.

The stems are often united at the base in a tuft of mycelium.

Among dead leaves in woods. June to August.

Collybia butyracea Bull.

Pileus fleshy, thin, convex then expanded, unbonate, smooth, reddish-brown, becoming paler with age, moist in wet weather, flesh dingy or whitish when moist, white when dry.

Lamellae thin, crowded, crenulate, adnexed or almost free, white.

Stem commonly tapering upward, glabrous, striate, reddish or reddish-brown, usually with a white tomentum on the thickened base, white within, stuffed or hollow.

Pileus 3 to 7.5 cm. broad; stem, 3 to 7.5 cm. long, 4 to 6 mm. thick at the top, thicker at the base. Spores 6 to 7.5 x 3 to 4 μ.

On the ground in pine woods. Millers, Ind., October.

Collybia dryophila Bull.

Pileus thin, convex or nearly plane, sometimes with the margin elevated, irregular, obtuse, glabrous, varying in color, commonly some shade of bay-red or tan-color; flesh white.

Lamellae narrow, crowded, adnexed or almost free, white or whitish, rarely yellowish.

Stem equal or sometimes thickened at the base, cartilaginous, glabrous, hollow, yellowish or rufescent, commonly similar in color to the pileus.

Spores 6 to 7.5 x 3 to 4 μ. Pileus 2.5 to 5 cm. broad; stem 2.5 to 5 cm. long, 2 to 4 mm. thick.

Common in woods, summer and autumn, on dead sticks and among fallen leaves. Spores elliptic-fusiform, occasionally pip-shaped, about 7 x 4 μ.

Collybia alcalinolens Pk.

Pileus thin, subconical, convex or nearly plane, glabrous or silky-fibrillose, hygrophanous, dark-brown and sometimes striatulate on the margin when moist, grayish-brown or cinereous when dry, shining; flesh white, odor strong, alkaline.

Lamellae broad, subdistant, deeply emarginate or adnexed with a slight decurrent tooth, somewhat ventricose, whitish.

Stem shining, glabrous, slightly pruinose at the top, hollow, whitish.

Spores broadly elliptical, 7.5 to 9 x 4 to 5 μ. Pileus 16 to 36 mm. broad; stem, 2.5 to 5 cm. long, 2 to 6 mm. thick.

Woods, Glen Ellyn. May. Gregarious about decaying stumps. The plant has a strong odor, resembling that of chloride of lime.

Collybia ignobilis Karst.

Pileus slightly fleshy or membranaceous, slightly convex or plane with the disk slightly depressed, glabrous, livid when moist, with a grayish reflection and the spreading margin striatulate, grayish or pallid when dry.

Lamellae close, dingy or pale, emarginate.

Stem equal, hollow, livid or pallid with a grayish or whitish floccose pruinosity.

Spores elliptical, hyaline, 7 to 8 x 4 μ. Pileus 12 to 15 mm. broad; stem 2.5 to 6 cm. long, 2 to 4 mm. thick.

On the ground among dead leaves in woods, Glen Ellyn. August. The pileus when moist is livid-blackish, fading to livid-gray at the margin. The margin is not at all striatulate in our plants; the spores white (not hyaline), oblong, blunt-pointed, 6 to 7 x 3 u.; the lamellae are rounded behind; the stem is livid without and within, clothed upwards with a whitish pruinosity which is easily removed. If additional material shall show these variations to be constant, the plant may be worthy of separation as a variety.

MYCENA.

Stem fistulose, cartilaginous; pileus somewhat membranaceous, more or less striate, the margin at first straight and pressed parallel to the stem; lamellae not decurrent (or only uncinate by a small tooth).

Plants terrestrial or epixylous. Spores white.

Plant tough, inodorous, persistent. 1
- 1. Lamellae united behind in a collar. . . . . *M. rugosa.*
- 1. Lamellae not united behind. . . . . *M. galericulata.*

2. Plant fragile, pileus striate. 3
- 3. With an alkaline odor. . . . . *M. alcalina.*
- 3. Without odor. . . . . *M. tenuis.*

4. Plant bright colored. 5
- 5. Exuding a red juice when broken. . . . . *M. haematopa.*
- 5. Juiceless. 6
- 6. Pileus bright orange-red, stem yellow. . . *M. acicula.*
- 6. Pileus and stem pinkish or violaceous. . . *M. pura.*

7. Plant viscid. 8
- 8. Pileus grayish-yellow. . . . . *M. epipterygia.*
- 8. Plant bright orange. . . . . *M. Leaiana.*

9. Plant very small, stem inserted at base. . . . . *M. corticola.*

Mycena rugosa Fr.

Pileus cinereous but becoming pale, very tough, slightly fleshy at the disk, otherwise membranaceous, campanulate then expanded, at length rather plane, unequal with elevated wrinkles, dry, striate at the margin.

Lamellae arcuate-adnate with a decurrent tooth, united behind in a collar, somewhat distant, connected by veins, broad, ventricose, white then gray.

Stem commonly short, remarkably cartilaginous, fistulose, rigid, tough, straight, at length compressed, even, smooth, pallid, with a short, oblique, strigose root.

On rotten stumps, Glen Ellyn and Winfield, September and October. The plant so referred is much tougher throughout than *M. galericulata;* the pileus is at first conic-campanulate then expanded, darker at the disk, sometimes obtuse, oftener with a

small, acute umbo. The lamellae although united to each other behind are adnate to the stem, and not to a separate collar as in *Marasmius rotula*. Cespitose, several individuals united by proliferous stems and a whitish tomentum. I do not find any spore measurements of this species. In our plant they are subglobose, 6 to 7 μ.

Mycena galericulata Scop. (Plate IV).

Pileus obtusely conical or campanulate, sometimes umbonate, long-striate, variable in color, but some shade of brown or cinereous.

Lamellae not crowded, uncinate, decurrent-toothed, abruptly pointed at the outer extremity, venose-connected, distinct at the stem, white or flesh-colored.

Stem firm, smooth, hollow, with white filaments at the base.

Pileus 1 to 3.5 cm. in diameter, stem 6 to 12 cm. long.

Common on stumps, decayed logs, sticks, etc. Very variable in size and color. Often densely cespitose. Upon the same log may be found plants varying from 6 mm. to 6 cm. in diameter, although the latter size is unusual.

Mycena alcalina Fr.

Pileus campanulate, obtuse, margin at length spreading or sometimes upturned, deeply striate when moist, shining when dry, color various, pallid or with a tinge of pale yellowish-green, the disk darker; odor strong and nitrous.

Lamellae adnate, narrowed behind, rather distant, whitish then glaucous or grayish.

Stem hollow, equal, pale, sometimes yellow, shining, slightly viscid, the base downy.

Pileus 1.5 to 9 cm. broad; stem 5 to 7.5 cm. long, 2 mm. thick. Solitary or densely cespitose.

On dead stump, River Forest. June. Pileus whitish-fuliginous, the disk darker or blackish; odor strongly alkaline; spores ellipsoid, 9 x 7 μ.

Mycena tenuis Bolt.

Pure white. Pileus very brittle, membranaceous, campanulate then convex, obtuse, striate more than half way to the disk, margin crenulate.

Lamellae adnate, ascending, distant, thin, watery.

Stem straight, equal, glabrous, pellucid, minutely fistulose.

Pileus about 12 mm. broad; stem 5 to 7.5 cm. long, less than 2 mm. thick.

On dead leaves in moist woods, Glen Ellyn. September. Pileus 8 to 12 mm. broad, hyaline when young, whitish or fuscous-white when older; hygrophanous. Stem smooth, pellucid, rigid-fragile, white or pale watery-brown, sometimes crooked from position.

Mycena haematopa Pers.

Cespitose. Pileus somewhat fleshy, campanulate, obtuse, the margin denticulate, commonly dark reddish or purplish.

Lamellae adnate, whitish.

Stem rigid, white, pulverulent, when broken exuding a dark red juice.

Pileus 1.3 to 2.5 cm. broad; stem 5 cm. long.

Old stumps, Glen Ellyn. September, Spores sphaeroid-ellipsoid, 10 x 6 μ.

Mycena acicula Schaeff.

Pileus membranaceous, campanulate or convex, smooth, orange-red, margin striate.

Lamellae rounded behind, adnexed, ventricose, distant, yellow, becoming whitish at the edge.

Stem tough, filiform, shining, minutely pilose, pale yellow.

Pileus 1 to 8 mm. broad; stem 2.5 cm. long.

On decaying leaves in moist woods. Glen Ellyn. Pileus paler toward the margin, becoming pale with age; flesh deep orange. Spores pyriform, 9 to 10 x 5 to 6 μ. Pileus 2 to 6 mm. broad; stem 2.5 to 5 cm. long. An attractive little species, the bright pileus contrasting with the dull background of leaves so that the plants are readily seen notwithstanding their small size.

Mycena pura Pers.

Pileus slightly fleshy at the disk, campanulate then expanded, with an obtuse, even umbo, pinkish, purple or lilac.

Lamellae broad, adnate, concolorous, interspaces venose.

Stem firm, smooth, hollow, concolorous. Odor of radish.

Pileus 1 to 2.5 cm. broad; stem 5 to 7.5 cm. long, 2 to 4 mm. thick.

Ground in woods. Glen Ellyn. August. Solitary. Whole plant a beautiful heliotrope color when young.

Mycena epipterygia Scop.

Pileus campanulate or hemispherical, sometimes convex, striate, viscid, grayish-yellow, the disk brownish.

Lamellae white or yellowish, sharply uncinate and decurrent-toothed.

Stem yellow, shining, viscid, white-villous at the base.

Pileus 4 to 10 mm. broad; stem 2.5 to 5 cm. long.

Ground in woods, Glencoe. October.

The pileus in our specimens is mouse-gray with a greenish-yellow tint. The lamellae when old often become slightly rufescent. The stem is greenish-yellow and viscid when fresh, becoming pallid or whitish when dry. Pileus 4 to 12 mm. broad; spores broadly ellipsoid, 7 to 9 x 4 to 5 μ.

None of our plants have the conic pileus shown in some of the specimens figured by Atkinson, in Studies of Am. Fungi, p. 96.

Mycena Leaiana Berk.

Cespitose, viscid, bright orange. Pileus somewhat fleshy, convex, the margin striate.

Lamellae distant, broad, emarginate-attached, the edge a darker orange or vermilion.

Stem mostly curved, strigose at the base.

Pileus about 2.5 cm. broad; stem 2.5 to 9 cm. long. The plant is very viscid and stains the fingers that handle it.

On rotten wood in woods, Glen Ellyn, River Forest and Glencoe. August and September. A showy species, wholly bright orange-red, becoming paler with age. Spores short-oblong, 8 to 10 x 6 μ.

Mycena corticola Schum.

Pileus hemispherical or convex, subumbilicate, striate, brown sometimes with a purple tint, and sometimes having a grayish-mealy appearance.

Lamellae few, distant, subdecurrent, broadly attached to the stipe.

Stem short, curved, stuffed or hollow, concolorous with the pileus.

Pileus 4 to 6 mm. broad; stem about 12 mm. long.

Gregarious on the bark of various living street and forest trees, summer and autumn. Very common on *Acer saccharinum* L., less common on *A. saccharum* and *A. negundo*. Pileus seldom more than 5 cm. broad; stems subpellucid when moist. Spores white, globose, 10 to 12 μ. When dry, the pileus closes about the stem and becomes globose. In this condition the plants are not easily discovered. The color of both pileus and stem of the dry plants is grayish from the dense furfuraceous coating.

OMPHALIA.

Stem cartilaginous, fistulose, but having the tube often stuffed, somewhat thickened upwards, widened out like a trumpet into the pileus; pileus somewhat membranaceous; lamellae truly decurrent. Plants terrestrial or epixylous. Spores white.

1. Lamellae venose-connected, yellowish ..... *O. campanella.*
   2. Lamellae distinct, white 3
   2. Lamellae distinct, gray 5
3. Pileus even 4
3. Pileus silky or flocculose ..... *O. epichysia.*
   4. Pileus white, diaphanous ..... *O. stellata.*
   4. Pileus whitish or brownish ..... *O. rustica.*
5. Pileus pale-yellow to orange ..... *O. fibula.*
5. Pileus white ..... *O. scyphoides.*

Omphalia campanella Batsch.

Pileus thin, convex, umbilicate, smooth, striatulate, hygrophanous, dull reddish-yellow.

Lamellae narrow, arcuate, venose-connected, yellowish.

Stem slender, firm, hollow, often curved, brown, a little paler at the top, tawny-villous at the base.

Pileus 8 to 25 mm. broad; stem 2.5 to 3.5 cm. long, scarcely 2 mm. thick.

On rotten stumps, River Forest and Glen Ellyn. Densely gregarious. Pileus often infundibuliform when old. Spores somewhat ellipsoid, but varying in shape, about 6 x 3 μ.

Omphalia stellata Fr.

Pileus membranous, convex, umbilicate, glabrous, striate, diaphanous, white.

Lamellae broad, very distant, thin, decurrent, white.

Stem filiform, fragile, equal, glabrous, white, radiate-floccose at the base.

Spores subglobose or broadly elliptical, 6 x 5 u. Pileus 4 to 8 mm. broad; stem 12 to 20 mm. long.

In grassy places. River Forest. June. Harper.

Omphalia rustica Fr.

Pileus membranaceous, broadly umbilicate, otherwise convex, striate and fuscous then gray when moist, when dry becoming even and whitish or brownish.

Lamellae decurrent, thick, rather distant, gray, the edge arcuate.

Stem slender, stuffed, curt, equal or thickened upwards and only where so thickened at length hollow, gray-brown.

Spores somewhat ellipsoid, 7.5 to 10 x 4 to 5 μ. Pileus 12 cm. or less broad; stem 12 cm. or rarely more long, 1 mm. thick.

In short grass in gravelly soil, open woods, Winfield. May, 1903.

Pileus in our plants 5 to 10 mm. broad. Spores somewhat larger than the dimensions above given, averaging 10 to 12 x 5 to 6 μ.

Omphalia epichysia Pers.

Pileus membranous, soft, expanded, umbilicate, hygrophanous, sooty-gray and striate when moist, pallid when dry, silky or flocculose.

Lamellae narrow, subdistant, slightly decurrent, whitish or cinereous.

Stem equal, somewhat hollow, glabrous, cinereous.

Pileus 12 to 25 mm. broad; stem 2.5 cm. long, 2 mm. thick.

Spores 8 to 10 x 4 to 5 μ. (Massee); 7.5 x 4 μ. (Peck).

On rotten wood, River Forest. Autumn. The pileus is beautifully striate when moist. Spores elliptic-oblong, 6 to 7 x 4 μ.

Omphalia fibula Bull.

Pileus membranous, commonly convex or hemispherical and umbilicate, striatulate when moist, varying in color from pale yellow to orange, even and paler when dry.

Lamellae distant, arcuate, strongly decurrent, white.

Stem slender, commonly long in proportion to the breadth of the pileus, colored like or a little paler than the pileus.

Pileus 4 to 10 mm. broad; stem 2.5 to 5 cm. long, scarcely a millimeter thick. Spores narrowly ellipsoid, 4 x 2 μ.

Mossy borders of swamps, Millers; damp mossy places in ravines, Glencoe. August.

Omphalia scyphoides Fr.

Pileus submembranous, plane and umbilicate or funnel-form, often irregular or somewhat eccentric, even, silky, white.

Lamellae narrow, close, decurrent, white.

Stem short, stuffed, subvillose, white.

Spores ellipsoid, 6 x 4 to 5 μ. Pileus 4 to 8 mm. broad; stem 8 to 16 mm. long.

Among dead leaves and twigs in woods, Glen Ellyn. July. Pileus fragile; stem solid or stuffed, sparsely (at the base closely) villous.

PLEUROTUS.

Stem eccentric, lateral or none; epiphytal (very rarely growing on the ground), irregular, fleshy or membranaceous. Spores white (violet-tinted in *P. sapidus*).

	Stem eccentric	1
	Stem obsolete, or nearly so	5
1.	Lamellae adnexed, pileus dry	*P. ulmarius.*
1.	Lamellae adnate, pileus viscid when young	*P. serotinus.*
1.	Lamellae decurrent	2
	2. Lamellae distinct at the base	3
	2. Lamellae anastomosing at the base	4
3.	Pileus white or buff	*P. dryinus.*
3.	Pileus fuliginous-cinereous	*P. salignus.*
	4. Spores white	*P. ostreatus.*
	4. Spores lilac	*P. sapidus.*
5.	Pileus squamose, 2.5 to 10 cm. broad	*P. mastrucatus.*
5.	Pileus villous, 2.5 to 5 cm. broad	*P. atrocaeruleus*
5.	Pileus pruinose, 4 to 6 mm. broad	*P. applicatus.*

Pleurotus ulmarius Bull. (Plate V.)

Pileus fleshy, compact, convex or nearly plane, glabrous, moist, sometimes tinged with reddish, yellowish or brownish hues and marked with livid spots, becoming darker and shining when old; flesh pure white.

Lamellae broad, emarginate or rounded behind, adnexed, moderately close, white or whitish.

Stem stout, solid, straight or curved, glabrous or partly or wholly tomentose, whitish.

Spores globose, 5 to 6 μ. Pileus 7.5 to 15 cm. broad; stem 2.5 to 7.5 cm. long, 12 to 20 mm. thick.

On trunk of *Acer Negundo*, Wheaton. October, 1896. Pileus elliptical, 27 x 20 cm. in the largest specimen. On living trunks of *Ulmus*. River Forest and Bowmanville. Often 7 to 20 meters from the ground.

Pleurotus serotinus Fr.

Pileus fleshy, compact, convex or nearly plane, viscid when young and moist, dimidiate, reniform or suborbicular, solitary or cespitose and imbricated, variously colored, dingy-yellow, reddish-brown, greenish-brown or olivaceous, the margin at first involute.

Lamellae close, determinate, whitish or yellowish.

Stem very short, lateral, thick, yellowish beneath and minutely tomentose or squamulose with blackish points.

Spores elliptical, 5 x 2.5 μ. Pileus 2.5 to 7.5 cm. broad.

Reported from woods at Bowmanville by Bertolet, Harper and Pepoon. Autumn.

Pleurotus dryinus Fr.

Pileus white or buff, convex or expanded, more or less depressed in the center, margin floccose, becoming floccose-scaly.

Lamellae white becoming tinged with yellow in age, decurrent in lines down the stem, not crowded.

Stem varying from nearly central to definitely lateral, smooth, white, tough, fibrous; veil floccose.

Pileus 5 to 10 cm. broad; stem 2 to 12 cm. long, 1 to 2 cm. thick.

Knot-hole in a log, River Forest. October, 1903.

The upper portion of the stem is pruinose between the decurrent striae of the lamellae. Lamellae shining-white, not anastomosing behind. I find no record of the size of the spores of this species. Cooke's figure, Illust. Pl. 226, shows them to be narrowly oblong. In our plant they are oblong, 14 x 4 u. The pileus is 5 to 8 cm. broad; the stem 5 cm. long, 1 to 2 cm. thick.

Pleurotus salignus Schw.

Pileus fleshy, compact, spongy, somewhat dimidiate, horizontal, at first pulvinate, even, afterwards the disk depressed, somewhat strigose, fuliginous-cinereous, sometimes ochraceous.

Lamellae decurrent, some of them branched, eroded, distinct at the base, subconcolorous with the pileus.

Stem short, tomentose.

On decaying wood of *Ulmus americana*, Wheaton. October. Pileus 7.5 to 12.5 cm. broad, both it and the lamellae tougher than those of *P. ostreatus*. Lamellae pallid, at length ochraceous, decurrent, not anastomosing behind. The species grows slowly, lasting three or four weeks. Spores abundant, pure white, 9 to 13 x 5 to 6 μ.

Pleurotus ostreatus Fr.

Pileus fleshy, soft, convex or slightly depressed behind, subdimidiate, often cespitosely imbricated, moist, glabrous, whitish, cinereous or brownish; flesh white.

Lamellae broad, decurrent, subdistant, anastomosing at the base, white or whitish.

Stem when present, very short, firm, lateral, sometimes strigose-hairy at the base.

Pileus 5 to 10 cm. broad; spores oblong, white, 7.5 to 10 x 4 μ.

Not common, but found occasionally throughout our district, chiefly after rains in autumn, on various deciduous trees.

A specimen found by Mr. Fred Wells, growing on *Ulmus americana*, in his lawn at Wheaton, consisted of a mass of imbricated pilei extending down a diseased crevice in the tree-trunk a distance of 3 dm. The individual pilei were 7 to 12 cm. broad, conchate, tapering to stem-like bases, smoky-white in color; lamellae deeply and irregularly decurrent, the interspaces rugose-reticulate toward the base.

Pleurotus sapidus Kalch.

Plant generally cespitose, pileus eccentric or lateral, rarely sessile, irregular, convex or depressed on the disk, glabrous, variable in color, whitish, yellowish, grayish-brown, lilac-brown or smoky-brown; flesh white.

Lamellae rather broad, subdistant, decurrent, distinct or anastomosing at the base, whitish.

Stem firm, solid, straight or curved, white or whitish, often united at the base.

Spores oblong, pale lilac, 9 to 11 x 4 to 5 μ. Pileus 5 to 12.5 cm. broad; stem 2.5 to 6 cm. long, 6 to 16 mm. thick.

Street, Wheaton, in sod where a street tree had been cut close to the ground, the plants growing from the buried decaying stump and roots. In dense, cespitose clusters, appearing for three successive seasons after heavy rains, from August to October.

Pleurotus mastrucatus Fr.

Pileus mouse-gray, as if prickly with floccose, squarrose scales of the same color, fleshy, when full grown obovate or tongue-shaped, soft, flaccid, margin involute but lobed when full grown or luxuriant; stratum of flesh double, the upper gelatinous, pliant, mouse-fuscous 1 mm. thick, the lower a little thicker, pallid.

Lamellae at first connivent in an eccentric umbilicus, then converging to the base of the pileus, broad, somewhat distant, quaternate, whitish-gray.

Big Woods, Evanston; September. Gammon. Jewell Grove, Wheaton, November.

Prof. Morgan notes of plants collected in Ohio, that the pileus is "rough, with hairs and rigid points intermixed; some of the hairs or points blackish." The blackish points or scales are a

conspicuous feature in our plant, and are more numerous toward the margin of the pileus. Plants 2.5 to 10 cm. broad. Spores ellipsoid, 9 x 4 μ.

Pleurotus atrocaeruleus Fr.

Pileus dark azure blue, more rarely fuscous, resupinate then reflexed, horizontal, obovate or reniform, villous, slightly wrinkled when dry; flesh soft, the upper stratum toughly gelatinous, as much as 4 mm. thick, fuscous-blackish, the lower thinner, whitish.

Lamellae at first decurrent, then reaching the base, in groups of 4 to 8, whitish, at length becoming light yellow.

Spores 8 x 3 μ (W. G. S.). Pileus 2.5 to 5 cm. broad. Sessile, gregarious, somewhat imbricated, here and there emitting a pleasant odor.

Var. *griseus* Pk.

Pileus grayish or grayish-brown, clothed with rather coarse pointed whitish or grayish hairs.

Lamellae not broad.

Spores elliptical, sometimes slightly curved, 7.5 x 4 μ. The pileus is sometimes attached by the vertex, and the margin is often beautifully crenately lobed or scalloped. (N. Y. Mus. Rep. 44: 35.)

On bark of *Hicoria ovata*, woods, Glen Ellyn. July, 1902.

Pileus dark grayish-brown with a bluish tint. Flesh in two strata; the upper fuscous-blackish, less than a millimeter thick, the lower whitish or pallid, 3 mm. thick. For the reason that the relative thickness of the strata was so at variance with the description given above, specimens were sent to Professor Peck, who refers them to his var. *griseus*. The spores in our plants are very abundant, ellipsoid, 6 x 4 μ.

Pleurotus applicatus Batsch.

Pileus when young cup-shaped, orbicular, adnate behind, villous at the base, commonly sessile, more or less pruinate; when fuller grown more or less reflexed, more dimidiate, smooth or slightly villous, slightly striate when damp.

Lamellae few, rather thick, broad, distant, paler than the pileus.

Pileus 4 to 6 mm. broad, varying in color, cinereous or azure-blue-blackish, dark or bluish-gray.

On dead sticks and branches. Frequent.

HYGROPHORUS.

Hymenophore continuous with the stem, and descending unchanged as a trama into the lamellae; lamellae acute at the edge, clothed with a hymenium which turns into a waxy mass. Growing on the ground, fleshy, putrescent; pileus viscid or watery, lamellae often branched. Spores white, globose.

Pileus white..... *H. virgineus.*
Pileus vermilion, becoming orange or yellow..... 1
Pileus light-yellow, becoming black..... *H. conicus.*
Pileus pale-yellowish..... 4
1. Lamellae adnate..... *H. miniatus.*
1. Lamellae long-decurrent..... *H. cantharellus.*
4. Stem glutinous..... 5
4. Stem not glutinous..... *H. pratensis.*
5. Stem stuffed, shining..... *H. ceraceus.*
5. Stem hollow, furfuraceous..... *H. cossus.*

Hygrophorus miniatus Fr.

Pileus at first vermilion then becoming pale and opaque, slightly fleshy, convex, obtuse then umbilicate, at first even and smooth, then squamulose.

Lamellae adnate, not decurrent, plane, distant, distinct, rather thick, yellow or sometimes light yellow-vermilion.

Stem somewhat stuffed, equal, round, even, smooth, shining, vermilion.

Very fragile. Pileus scarcely reaching 2.5 cm. in breadth; stem about 5 cm. long, 2 mm. thick. Spores 10 x 6 μ. (Cke.); 8 x 5 μ. (W. G. S.)

Ground under trees in a moist ravine, Glen Ellyn. August.

Pileus about a centimeter in diameter.

The species of *Hygrophorus* appearing in the vicinity of Chicago are not luxuriant and the individuals are few in number.

Hygrophorus cantharellus Schw.

Pileus thin, convex, at length umbilicate or centrally depressed, minutely squamulose, moist, bright red, becoming orange or yellow.

Lamellae distant, subarcuate, decurrent, yellow, sometimes tinged with vermilion.

Stem smooth, equal, subsolid, sometimes becoming hollow, concolorous with the pileus, whitish within.

Pileus 12 to 25 mm.; broad; stem 5 to 10 cm. long, 2 to 4 mm. thick.

Bank of a wooded ravine, Glencoe. August.

Stem bright vermilion, pileus a little paler, lamellae whitish with a reddish tint, long-decurrent.

Hygrophorus conicus Fr.

Pileus thin, submembranaceous, commonly light-yellow, becoming black, smooth, fragile, conical, generally acute, sometimes obtuse, the margin often lobed.

Lamellae rather close and broad, subventricose, narrower behind, free, terminating in an abrupt tooth in front, scarcely reaching the margin, yellow.

Stem equal, fibrous-striate, yellow, hollow.

Pileus 12 to 25 mm. broad; stem 7.5 to 15 cm. long, 2 to 4 mm. thick. Spores 10 x 6 μ.

Moist woods. Millers; Glen Ellyn. August.

Hygrophorus pratensis Fr.

Pileus somewhat pale-yellowish, compactly fleshy especially at the disk, thin toward the margin, convex then flattened, almost turbinate from the stem being thickened upwards, even, smooth, moist (but not viscous) in rainy weather, when dry often rimosely incised, here and there split regularly round; flesh firm, white.

Lamellae remarkably decurrent, at first arcuate, then extended in the form of an inverted cone, very broad in the middle, concolorous with the pileus.

Stem stuffed, internally spongy, externally polished-evened and firmer, attenuated downwards, smooth, naked.

Pileus 2.5 to 5 cm. broad; stem 3.5 to 5 cm. long, a cm. or more thick. Spores 6 to 10 x 4 to 6 μ.

Grassy places in open woods, Glencoe. October. Whole plant pallid-whitish, margin of pileus repand.

Hygrophorus ceraceus Fr.

Fragile. Pileus thin, convex-plane, obtuse, a little striate, viscid, waxy, shining.

Lamellae adnate, somewhat decurrent, distant, broad, almost triangular, yellow.

Stem hollow, unequal, waxy, shining.

Moist woods. Millers, Indiana. Pileus about 2.5 cm. broad, stem 3 to 5 cm. long, flexuous, yellow like the pileus.

Hygrophorus cossus Fr.

Pileus yellowish-white, disk somewhat ochraceous, fleshy, convex-plane, obtuse, smooth, glutinous, shining when dry, margin naked; flesh white.

Lamellae adnate, decurrent, distant, connected by veins, firm, white.

Stem stuffed, soft, somewhat equal, furfuraceous and rough with dotted points above, white or becoming tinged with yellow.

Pileus 3.5 cm. broad; stem 5 to 7.5 cm. long, 4 to 10 mm. thick.

Woods, Glen Ellyn. September. Our plants are somewhat smaller than the dimensions given above, and shown in Cooke's figure (Illust. Pl. 887). The pileus is 2.5 to 4 cm. broad, disk flesh-color or pale reddish-yellow; lamellae white or with a slight creamy-yellow tint; stem 2.5 to 5 cm. long, about 6 mm. thick, concolorous with the lamellae viscid except at the apex where it is dry and dotted or farinose.

Hygrophorus virgineus Fr.

Wholly white. Pileus fleshy, convex then plane, obtuse, moist, at length depressed, cracked into patches, floccose when dry.

Lamellae decurrent, distant, rather thick.

Stem curt, stuffed, firm, attenuated at the base, externally becoming even and naked.

Among leaves in open grassy places in woods, Glen Ellyn. October, 1902. Our plants are very variable both in size and shape, frequently much deformed (on account of recent frosts?); pileus pure white becoming pallid, at first even and moist, the cuticle soft, like white kid-leather; sometimes regular in shape and convex with the margin depressed when old, sometimes with the pileus bi-laterally compressed and upturned, frequently undulated on the margin; stems usually short, 1½ to 3 cm. long, compressed and flattened in the larger plants. Spores ellipsoid, inequilateral, 7 to 9 x 5 to 6 μ.

LACTARIUS.

Hymenophore continuous with the stem; lamellae unequal, membranaceous, waxy, slightly rigid, milky, acute at the edge; spores white, rarely yellowish, globose. Fleshy fungi, usually growing on the ground, putrescent; pileus depressed, lamellae adnate-decurrent, often branched.

Pileus viscid, milk white, acrid 1
Pileus not viscid, milk white, acrid 3
Pileus not viscid, milk dark blue 4
Pileus viscid or dry, milk mild or very tardily acrid 5

1. Margin inflexed, tomentose-hairy ..... *L. torminosus.*
1. Margin inflexed, pruinose ..... *L. trivialis.*
2. Pileus reddish flesh-color or reddish-brown ..... *L. hysginus.*
2. Pileus yellowish-brown or sordid green ..... *L. sordidus.*
3. Pileus convex then plano-depressed ..... *L. pergamenus.*
3. Pileus becoming infundibuliform ..... *L. piperatus.*
4. Whole plant blue ..... *L. Indigo.*
5. Milk white changing to sulphur-yellow ..... *L. theiogalus.*
5. Milk white, unchangeable 6
6. Pileus pruinose or pubescent 7
6. Pileus glabrous 8
7. Pileus dingy-cinereous or buff-gray ..... *L. fuliginosus.*
7. Pileus yellowish-red or orange-tawny ..... *L. hygrophoroides*
7. Pileus buff-color ..... *L. luteolus.*
8. Stem 8 to 20 mm. thick ..... *L. volemus.*
8. Stem 2 to 6 mm. thick ..... *L. subdulcis.*

Lactarius torminosus Fr.

Pileus convex then depressed, viscid when young or moist, yellowish-red or pale ochraceous, tinged with red or flesh-color, often varied with zones or spots, the at first involute margin persistently tomentose-hairy.

Lamellae thin, close, narrow, whitish, often tinged with yellow or flesh-color. Milk white, unchangeable, taste acrid.

Stem equal or slightly tapering downward, hollow, sometimes spotted, whitish.

Spores subglobose or broadly elliptical, 9 to 10 μ. Pileus 5 to 10 cm. broad; stem 3.5 to 7.5 cm. long, 8 to 16 mm. thick.

Glen Ellyn and Winfield. Banks in shade, Pine, Ind., Bertolet and Pepoon.

Usually solitary, although a cluster containing a dozen specimens closely aggregated and distorted by mutual pressure, was found in woods at Glen Ellyn, September, 1900. The pileus is usually partially or wholly covered with dead leaves and dirt which adhered when the young viscid plant pushed its way out of the earth. When old, it is quite dry. The usual size is 7.5 to 10 cm. although individuals measuring 15 cm. in diameter have been found.

Well marked by the densely floccose margin of the pileus. (Pepoon.)

Lactarius trivialis Fr.

Pileus convex then nearly plane, umbilicate or centrally depressed, globose, viscid, somewhat zonate, leaden-gray, livid-cinereous or pale-brown, often with a pink or lilac tint, the thin inflexed margin at first with a grayish pruinosity.

Lamellae rather narrow, close, thin, adnate, sometimes forked, whitish becoming pallid or creamy-yellow, with dingy-greenish stains where wounded.

Stem equal or slightly tapering upward, long or short, glabrous, rarely spotted, hollow, whitish, often tinged with yellow or gray, paler than the pileus. Milk white or pale cream-color, taste acrid.

Spores yellowish, 7 to 10 μ.

Woods, Glen Ellyn and Winfield. August. Our plants agree with the description except that the lamellae change to brownish where wounded. Pileus 5 to 7.5 cm. broad; stem 5 to 9 cm. long, 12 to 24 mm. thick. Spores globose, very slightly echinulate, 7 to 8 μ. The flesh of the pileus is grayish under the separable pellicle.

Sandy woods, Millers. August. Harper.

Lactarius hysginus Fr.

Pileus convex then nearly plane, umbilicate, red-flesh-color or reddish-brown, the thin margin inflexed, even, viscous.

Lamellae adnate or subdecurrent, thin, crowded, white then cream-colored or ochraceous.

Stem stuffed then hollow, smooth, colored like or a little paler than the pileus, sometimes spotted. Spores globose, echinulate, whitish, 7 to 10 μ; milk white, unchangeable, taste acrid.

Pileus 6 to 10 cm. broad; stem 5 to 10 cm. long, 8 to 16 mm. thick.

Woods, Millers. August. Harper.

Lactarius sordidus Pk.

Pileus thick, firm, convex and centrally depressed, then nearly plane or subinfundibuliform, subglabrous, slightly viscid when moist, soon dry, pale yellowish-brown, tinged with sordid-green, often darker in the center.

Lamellae narrow, close, white or yellowish.

Stem short, firm, equal or slightly tapering upward, hollow, colored like the pileus, generally spotted. Milk white, taste acrid.

Spores 7.5 to 9 μ. Pileus 5 to 10 cm. broad; stem 2.5 to 5 cm. long, 8 to 16 mm. thick.

Woods, Millers. August. Harper.

Lactarius pergamenus Fr.

White. Pileus fleshy, pliant, convex then plano-depressed, repand, slightly wrinkled, smooth.

Lamellae adnate, very narrow, horizontal, very crowded, branched, white then straw-color; milk white, acrid.

Stem stuffed, smooth, changing color.

Pileus 7.5 to 15 cm. broad, stem 3.5 to 7.5 cm. long, lamellae scarcely 2 mm. broad.

Woods, Glen Ellyn and Winfield. August. Differs from *L. piperatus* in having the pileus at first convex, the lamellae adnate and narrower, the stem longer and thinner. Spores subglobose, but somewhat irregular, 6 to 8 μ. Gregarious; often three to six plants in a close cluster. The pileus in our plants does not become funnel-shaped but is rimosely incised when fully grown.

Lactarius piperatus Fr. (Plate VI, Fig. 1.)

Pileus compact, at first convex and umbilicate, then expanded and centrally depressed or infundibuliform, even, glabrous, white.

Lamellae narrow, crowded, dichotomous, adnate or decurrent, white or cream-colored.

Stem equal or slightly tapering downward, solid, glabrous, white. Milk white, abundant, very acrid.

Pileus 3.5 to 10 cm. broad; stem 2 to 5 cm. long, 10 to 20 mm. thick. Spores white, nearly smooth, 6 to 7.5 μ.

On the ground in dry or moist woods, Winfield, Glen Ellyn, Glencoe, Highland Park, Riverside. One of our most common species. Specimens 12 cm. broad, with the pileus wholly funnel-shaped are often found. Dr. Watson has collected at Highland Park, a plant which may be this species, but so distorted by *Hypomyces lactifluorum* as to be unrecognizable. The spores upon the specimens are wholly those of the parasite. Similar specimens have been collected at River Forest by Wyrick, and at Winfield by the writer.

Lactarius Indigo Schw.

Pileus at first umbilicate with the margin involute, then depressed or infundibuliform, indigo-blue with a silvery-gray luster, zonate, especially on the margin, sometimes spotted, becoming paler and less distinctly zonate with age.

Lamellae close, indigo-blue, becoming yellowish and sometimes greenish with age.

Stem short, nearly equal, hollow, often spotted with blue, colored like the pileus. Milk dark blue.

Spores subglobose, 7.5 to 9 μ. Pileus 5 to 12.5 cm. broad; stem 2.5 to 5 cm. long, 12 to 20 mm. thick.

Dry places, especially under pine trees. (Peck.)

Calumet Heights, Millers and Glencoe. August and September. At Millers it occurs in mixed woods, both upon dry ground and in moist swamp borders.

Lactarius theiogalus Fr.

Pileus thin, convex then depressed, at length infundibuliform, even, smooth, viscid, tawny-reddish, shining when dry, zoneless; flesh whitish, milk white then changing to sulphur-yellow, taste slowly acrid.

Lamellae adnate or decurrent, close, pallid then reddish.

Stem stuffed then hollow, equal, even, concolorous with the pileus.

Spores yellowish, subglobose, 7.5 to 9 μ. Pileus 5 to 12.5 cm broad; stem 2.5 to 7.5 cm. long, 16 to 18 mm. thick.

Open woods, Glen Ellyn. August. Pileus 6 to 7.5 cm. broad; stem about 6 cm. long. The pileus changes from reddish-tawny to ochraceous-tawny when parting with its moisture.

Lactarius fuliginosus Fr.

Pileus firm, becoming soft, convex, plane or slightly depressed, even, dry, zoneless, dingy-cinereous or buff-gray, appearing as if covered with a dingy pruinosity, the margin sometimes wavy or lobed.

Lamellae adnate or subdecurrent, subdistant, whitish then yellowish, becoming stained with pink-red or salmon color where wounded.

Stem equal or slightly tapering downwards, firm, stuffed, colored like the pileus; spores globose, yellowish, 7.5 to 10 μ.; milk white, taste tardily and sometimes slightly acrid.

Pileus 2.5 to 6 cm. broad; stem 2.5 to 5 cm. long, 6 to 12 mm. thick.

Grassy places in open woods, Riverside. July.

Lactarius hygrophoroides B. & C.

Pileus convex, at length plane, pulverulent, yellowish-red.

Lamellae very distant, decurrent, yellowish, the interstices rugose.

Stem not 2.5 cm. high, 8 mm. thick, of the same color as the pileus. Pileus 3.5 cm. across. This species has somewhat the habit of *L. volemus*.

Open woods, Glen Ellyn. August. Pileus dry, rugose-reticulated, at length subinfundibuliform, orange-tawny; lamellae creamy-white, some of them forked; stem smooth, tapering downwards; milk white, mild, unchangeable. Spores globose, slightly rough, 10 μ.

Lactarius luteolus Pk.

Pileus fleshy, rather thin, convex or nearly plane, commonly umbilicately depressed in the center and somewhat rugulose, pruinose or subglabrous, buff-color; flesh white; taste mild; milk copious, flowing easily, white or whitish.

Lamellae close, nearly plane, adnate or slightly rounded behind, whitish, becoming brownish where wounded.

Stem short, equal or tapering downwards, solid or somewhat spongy within, colored like the pileus.

Spores globose, 7.5 μ.; pileus 5 to 7.5 cm. broad; stem 2.5 to 3.5 cm. long, 6 to 10 mm. thick.

Sandy woods. Millers. June.

Lactarius volemus Fr.

Pileus firm, convex, nearly plane or centrally depressed, rarely infundibuliform, sometimes with a small umbo, generally even, glabrous, dry, golden-tawny or brownish-orange, sometimes darker in the center, often becoming rimose-areolate.

Lamellae close, adnate or subdecurrent, white or yellowish, becoming sordid or brownish where bruised or wounded.

Stem subequal, firm, solid, glabrous or merely pruinose, colored like the pileus, sometimes a little paler. Milk copious, white, "taste acrid." (Peck.)

Spores globose, 8.7 to 11 μ. Pileus 2 to 12.5 cm. broad; stem 2.5 to 10 cm. long, 8 to 20 mm. thick.

Woods, Highland Park. August and September. Watson, Harper.

Glen Ellyn. Not found in 1901; quite common in 1902. The pileus is seldom more than 8 cm. broad. The milk in our plants is mild, agreeing in this respect with *L. corrugis* Peck, but the pileus is not "corrugated" as it is said to be in that species, although sometimes it is slightly wrinkled.

Lactarius subdulcis Bull.

Pileus thin, convex, then plane or subinfundibuliform, with or without a small umbo or papilla, glabrous, even, zoneless, moist or dry, tawny-red, cinnamon-red or brownish-red, the margin sometimes wavy or flexuous.

Lamellae adnate, crowded, colored like or paler than the pileus.

Stem slender, glabrous, stuffed then hollow, colored like or paler than the pileus. Milk white, taste mild or tardily and slightly acrid.

Spores white, globose, 7.5 to 9 μ. Pileus 10 mm. to 5 cm. broad; stem 2.5 to 6 cm. long, 2 to 6 mm. thick.

Among leaves in woods, Millers and Glencoe. Very similar in appearance to some forms of *Clitocybe laccata*, and often associated with it. Taste mild; spores globose, slightly rough, about 8 μ.

RUSSULA.

Hymenophore descending unchanged and forming a vesicular trama; veil none; lamellae rigid, fragile, acute at the edge. Growing on the ground, fleshy, putrescent, with polished stem, and pileus at first or at length depressed. Spores rounded, often echinulate, white or yellowish.

1. Pileus without a pellicle, flesh firm, compact 2
1. Pileus with a pellicle, margin at length sulcate, flesh rigid-fragile 5
2. Flesh extending to the involute margin 3
2. Flesh not extending to the straight margin 4
3. Pileus at length black ..... *R. nigricans.*
3. Pileus whitish or cinereous-fuliginous .. *R. adusta.*
4. Pileus milk-white, then tan-white ..... *R. lactea.*
4. Pileus green or yellowish-green ..... *R. virescens.*
4. Pileus cinnabar-vermilion becoming pale .. *R. rubra.*
5. Lamellae and spores white 6
5. Lamellae and spores white then yellowish ..... *R. atropurpurea*
5. Lamellae and spores ochraceous 7
6. Pileus rosy, then blood-color ..... *R. emetica.*
6. Pileus toast-brown, then pale-tan ..... *R. pectinata.*
7. Lamellae free, broad, somewhat distant ..... *R. alutacea.*
7. Lamellae adnate, narrowed behind, much crowded ..... *R. puellaris.*
7. Lamellae adnate, subdistant ..... *R. ochrophylla.*
7. Lamellae slightly adnexed, broad, not crowded ..... *R. ochracea.*

Russula nigricans Fr.

Pileus olivaceous-fuliginous, at length black, fleshy to the margin which is at first bent inwards, convex then flattened, umbilicate-depressed, when young and moist slightly viscid and even, but without a separable pellicle, at length rimose-squamulose; flesh firm, white, when broken becoming red on exposure to the air.

Lamellae rounded behind, slightly adnexed, thick, distant, unequal, paler, reddening when touched.

Stem persistently solid, equal, pallid when young, at length black.

Spores papillose, 8 μ. Pileus 5 to 10 cm. broad, stem 2.5 cm. thick.

Woods, Glencoe. August. The entire plant turns black in drying and the surface cracks into areas like that of *R. virescens.*

Russula adusta Fr.

Pileus pallid, whitish or cinereous-fuliginous, equally fleshy, compact, depressed then somewhat infundibuliform, margin at first inflexed, smooth, then erect, without striae; flesh unchangeable.

Lamellae adnate then decurrent, thin, crowded, unequal, white then dingy, not reddening when touched.

Stem solid, obese, concolorous with the pileus.

Spores sphaeroid, echinulate, 7 to 9 μ. Pileus 5 to 15 cm. broad, stem 3 to 6 cm. long, 1 to 1.5 cm. thick.

Woods, Glencoe. August. Watson.

Russula lactea Fr.

Pileus at first milk-white, then tan-white, compactly fleshy, campanulate then convex, often eccentric, without a pellicle, always dry, at first even, then slightly cracked when dry; margin straight, thin, obtuse, even; flesh compact, white.

Lamellae free, very broad, thick, distant, rigid, forked, white.

Stem solid, very compact, but at length spongy-soft within, equal, even, always white.

Spores subglobose, echinulate, 7 to 9 μ. Pileus 5 cm. broad; stem 3.5 to 6.5 cm. long, 2 to 3 cm. thick.

In open woods, Glen Ellyn. August.

Russula virescens Fr.

Pileus green, compactly fleshy, globose then expanded, at length depressed, dry, not furnished with a pellicle, the flocculose cuticle broken up into patches or warts; margin straight, obtuse, even; flesh white.

Lamellae free, somewhat crowded, sometimes equal, sometimes forked with a few shorter ones intermixed, white.

Stem solid, internally spongy, firm, somewhat rivulose, white. Taste mild. It varies in color, sometimes deep and sometimes pallid green, sometimes yellowish then green.

Woods throughout our district. Not common. July to September. Edible.

Prof. Harshberger states that the box tortoise (*Cistudo virginica*) is extremely fond of this species. (Journ. Myc. 8: 156.)

Russula rubra Fr.

Pileus unicolorous, cinnabar-vermilion but becoming pale tan when old, disk commonly darker, compact, hard but fragile, convex then flattened, here and there depressed, absolutely dry, without a pellicle, but becoming polished-even, often rivulous-rimose when old, margin spreading, obtuse, even; flesh white, reddish under the cuticle.

Lamellae obtusely adnate, somewhat crowded, whitish then yellowish, with dimidiate and forked ones intermixed.

Stem solid, even, varying white and red. Very acrid.

Spores sphaeroid, 8 to 10 μ.; pileus 2.5 to 10 cm. broad; stem 5 to 7.5 cm. long, about 2.5 cm. thick.

In open woods, Glencoe. August. Laxly gregarious. Taste acrid, bitterish; plant very firm and rigid; stems in our specimens wholly whitish, sometimes even, but oftener attenuated downwards. Spores whitish, very slightly rough, globose, 7 to 9 μ.

Russula atropurpurea Pk.

Pileus at first convex then centrally depressed, glabrous, dark-purple, blackish in the center, the margin even or slightly striate; flesh white, grayish or grayish-pink under the separable pellicle; taste mild; odor of the drying plant foetid, very unpleasant.

Lamellae nearly equal, subdistant, sometimes forked near the stem, at first white, then yellowish, becoming brownish where bruised.

Stem equal, glabrous, spongy within, white, brownish where bruised.

Spores subglobose, minutely rough, pale-ochraceous with a salmon tint, 7.5 to 10 μ. Pileus 7.5 to 10 cm. broad; stem 5 to 7.5 cm. long, 10 to 16 mm. thick.

Grassy places in woods, Glen Ellyn. June. Pileus up to 10 cm. in diameter; spores globose, rough, 9 to 10 μ. The odor of the plant will not be forgotten by one who has attempted to dry specimens.

Russula emetica Fr.

Pileus at first rosy then blood-color, tawny when old, at first campanulate then flattened or depressed, polished, margin at length sulcate and tubercular; flesh white, reddish under the separable pellicle; taste very acrid.

Lamellae somewhat free, broad, somewhat distant, shining white.

Stem stout, spongy-stuffed, elastic when young, fragile when older, even, white or reddish.

Spores white, sphaeroid, echinulate, 8 to 10 μ. Pileus 5 to 10 cm. broad; stem 5 to 10 cm. high, 1 to 2 cm. thick.

Woods. Frequent. Very fragile when old. Most authors consider it poisonous; McIlvane states that it is edible.

Russula pectinata Fr.

Pileus at first viscous, toast-brown, then dry, becoming pale, tan, with the disk always darker, fleshy, rigid, convex then flattened and depressed or concave-infundibuliform; margin thin, pectinate-sulcate, here and there irregularly shaped; flesh white, light-yellowish under the pellicle which is not easily separable.

Lamellae attenuate-free behind, broader toward the margin, somewhat crowded, equal, simple, white.

Stem rigid, spongy-stuffed, longitudinally slightly striate, shining white, often attenuated at the base. Odor weak but nauseous.

Spores globose, 8 to 9 μ.; pileus 7.5 cm. broad; stem 7.5 cm. long, 2 to 2.5 cm. thick.

Woods, Glencoe and Glen Ellyn. August. The plant when young is smooth, watery-brown, viscid, and has the margin of the pileus strongly incurved. The flesh is not always yellowish under

the cuticle, being sometimes merely pallid. Specimens 10 cm. or more broad are not uncommon.

Russula alutacea Fr.

Pileus commonly bright blood-red, even black-purple, but becoming pale, especially at the disk, fleshy, campanulate then convex, flattened and somewhat umbilicate, even, with a remarkably viscous pellicle, margin even, at length striate, tubercular; flesh snow-white.

Lamellae at first free, thick, very broad, connected by veins, all equal, somewhat distant, at first pallid light-yellow, then bright ochraceous, not pulverulent.

Stem solid, stout, equal, even, white, most frequently variegated reddish, even purple. Edible; taste mild and pleasant.

Spores yellow, 7 to 9 μ. (Massee); 11 to 14 x 8 μ. (Saccardo.)

Pileus 5 to 10 cm. broad; stem about 5 cm. long, 12 mm. thick.

Ground in woods, Winfield. August.

Russula puellaris Fr.

Pileus conic-convex then expanded, at first rather gibbous then slightly depressed, scarcely viscid; color peculiar, purplish-livid then yellowish, disk always darker and brownish, tuberculosely striate often to the imddle; flesh almost membranaceous except at the disk.

Lamellae adnate, very much narrowed behind, thin, crowded, white then pale yellow, not shining nor powdered with the spores.

Stem equal, soft, fragile, wrinkled under a lens, white or yellowish, stuffed, soon hollow; taste mild.

Spores subglobose, pale yellow, echinulate, 10 x 8 to 9 μ.; pileus 2.5 to 3.5 cm. broad; stem 2.5 to 3.5 cm. long, 4 to 3 mm. thick.

Grassy places in open woods, somewhat gregarious. Spores ochraceous, subglobose, 7 to 9 μ.

Russula ochrophylla Pk.

Pileus firm, convex, becoming nearly plane or slightly depressed in the center, even or rarely very slightly striate on the margin when old, purple or dark purplish-red; flesh white, purplish under the adnate cuticle; taste mild.

Lamellae entire, a few of them forked at the base, subdistant, adnate, at first yellowish, becoming bright ochraceous-buff when mature, dusted by the spores, interspaces somewhat venose.

Stem equal or nearly so, solid or spongy within, reddish or rosy tinted, paler than the pileus.

Spores bright ochraceous-buff, globose, verruculose, 10 μ.; pileus 5 to 10 cm. broad; stem 3.5 to 5 cm. long, 12 to 20 mm. thick. Edible.

Ground in woods. Fort Sheridan. August.

Russula ochracea Fr.

Pileus pale ochraceous, soft, convex, then expanded and depressed, margin coarsely striate, pellicle thin, viscid, disk usually becoming darker.

Lamellae slightly adnexed, broad, scarcely crowded, ochraceous.

Stem ochraceous, slightly wrinkled longitudinally, stuffed, soft. Taste mild.

Spores globose, echinulate, ochraceous, 10 to 12 μ; pileus 7.5 cm, broad; stem about 3.5 cm. long, 10 to 14 mm. thick.

Grassy places in deciduous woods. Glen Ellyn. June. Stem ochraceous but paler than the pileus; taste mild; flesh very pale-ochraceous; lamellae pale-ochraceous with a slight greenish tint.

CANTHARELLUS.

Hymenophore continuous with the stem, descending unchanged into the trama; lamellae thick, fleshy-waxy, fold-like, somewhat branched, obtuse at the edge. Fleshy, membranaceous fungi, without a veil. Spores white.

Not hygrophanous 1
Hygrophanous 2

1. Plant yellow; lamellae concolorous, stem solid ..... *C. cibarius.*
   Plant orange; lamellae darker, stem stuffed ..... *C. aurantiacus.*
2. Plant dingy or brownish when moist; stem hollow ..... *C. infundibuliformis.*

Cantharellus cibarius Fr.

Pileus fleshy, firm, convex, becoming expanded or slightly depressed, glabrous, yellow, the margin at first involute, then spreading and often wavy or irregular.

Lamellae narrow, thick, distant, decurrent, branched or anastomosing, yellow.

Stem firm, glabrous, solid, yellow.

Spores elliptical, pale yellowish, 7.5 to 10 μ. long. Pileus 2.5 to 10 cm. broad; stem 2.5 to 10 cm. long, 6 to 12 mm. thick.

Ground in woods, throughout our district. July to October.

Plants collected at Glencoe in 1902, have exactly the characters of *C. minor Pk.*, except that the spores are 10 x 7 μ., agreeing substantially with those of *C. cibarius.*

Cantharellus aurantiacus Wulf. (Plate VII.)

Nearly orange-color. Pileus fleshy, soft, depressed, somewhat tomentose.

Lamellae close, straight, dichotomous, of a rather deeper color.

Stem stuffed, unequal.

Pileus 5 to 7.5 cm. broad; stem 5 cm. long.

Among decayed leaves on and about the base of stump, Lisle. August. The pileus is occasionally eccentric. Spores elliptical, 6 x 4 μ.

Cantharellus infundibuliformis Scop.

Pileus thin, broadly convex when young, becoming umbilicate, or funnelform with age, often pervious, frequently lobed, wavy or irregular on the margin, hygrophanous, sooty brown, brownish yellow or dingy yellow when moist, grayish yellow or grayish brown and slightly floccose or fibrillose when dry.

Lamellae narrow, distant, decurrent, irregularly or dichotomously branched, yellowish or subcinereous, becoming pruinose with age or in drying.

Stem slender, glabrous, hollow, yellow or yellowish.

Spores broadly elliptic or subglobose, 9 to 11 x 7.5 to 9 μ. Pileus 2.5 to 5 cm. broad; stem, 2.5 to 10 cm. long, 3 to 5 mm. thick.

Ground, in damp woods. Glencoe. Harper.

MARASMIUS.

Tough, arid fungi, shriveling, reviving when moist; hymenophore continuous with the stem, but heterogenous, descending into the trama; veil none; stem cartilaginous or horny; lamellae pliant, acute, somewhat distant, quite entire. Spores white.

Pileus fleshy-tough, margin at first involute, mycelium floccose. 1
Pileus membranous, margin at first straight, mycelium rhizomorphous. 5
1. Stem solid or stuffed. 2
1. Stem hollow. 3
2. Stem white-villous at the base. . . . . *M. urens.*
2. Stem naked at the base. . . . . *M. oreades.*
3. Pileus clothed with matted down. . . . . *M. dichrous.*
3. Pileus smooth 4
4. Stem very long, tomentose, radicating. *M. longipes.*
4. Stem of medium length, velvety, not radicating . . . . . *M. pyrocephalus.*
4. Stem glabrous. . . . . *M. calopus.*
5. Stem glabrous. 6
5. Stem white-farinose. 7
6. Pileus ochraceous-red. . . . . *M. siccus*
6. Pileus whitish, opaque. . . . . *M. rotula.*
7. Pileus pure white, subpellucid. . . . . *M. nigripes.*

Marasmius urens Bull.

Acrid. Pileus fleshy then coriaceous, convex-plane, glabrous, even, at length wrinkled or rivulose.

Lamellae free, joined together behind, pale or yellowish, changing to brownish, at length remote, distant, firm.

Stem fibrous, solid, rigid, pallescent, mealy with white flocci and white villous at the base.

Pileus 2 to 3.5 cm. broad; stem 5 to 7.5 cm. long.

On dead leaves in woods. Frequent. Considered poisonous.

Marasmius oreades Bolt.

Pileus fleshy, tough, convex then plane, somewhat umbonate, glabrous, expallent.

Lamellae free, broad, distant, white-pallid.

Stem solid, equal, the cuticle villous-interwoven, pallid, the base naked. Somewhat fragrant.

Pileus 2 to 3.5 cm. broad; stem 6.5 to 9 cm. long.

"Growing in circles and series throughout the summer. It is famous for the rich flavor it imparts to soups and gravies. When dried it may be kept for years without losing any of its aroma or goodness."—Morgan.

The species has been reported from the Chicago region by several collectors. I have not found it here. It is the famed "Fairy-ring mushroom."

Marasmius dichrous B. & C.

Pileus convex, dark brown, clothed with close matted down, sometimes appearing velvety.

Lamellae at first adnate, separating from the stem, and sometimes leaving a naked area around it, moderately distant, ventricose, interstices nearly even.

Stem brown, clothed with furfuraceous down, base slightly dilated, villous.

Spores white; pileus 2.5 cm. or more across; stem 2.5 to 3.5 cm. long, scarcely 2 mm. thick.

On dead leaves in woods. August. In the plants so referred the furfuraceous coating of the stem is whitish. The interspaces between the lamellae are usually even, but occasionally venose. The spores are elliptical or slightly pip-shaped, 7 to 8 x 4 to 5 μ.

Marasmius longipes Peck.

Pileus thin, convex, smooth, finely striate on the margin, tawny-red.

Lamellae not crowded, attached, white.

Stem tall, straight, equal, hollow, pruinose-tomentose, radicating, brown or fawn-color, white at the top.

Pileus 8 to 12 mm. broad; stem 5 to 12.5 cm. long, about 1 mm. thick.

On dead leaves and twigs in woods, Glen Ellyn. June to August. Spores broadly subpyriform, or elliptical and slightly pointed at one end, 6 to 7 x 3 to 4 μ.

Marasmius pyrocephalus Berk.

Pileus a little fleshy, convex then plane, umbilicate, plicate-striate, red-brown.

Lamellae adnate, lax, rather distant, somewhat ventricose, white then pallid.

Stem hollow, densely velvety, brown, pale at the apex.

Pileus 1.3 to 2.5 cm. broad; stem 5 to 6.5 cm. long.

On dead leaves, twigs, etc., in woods, Glen Ellyn. July, August.

The plants so referred have the pileus plicate-striate only toward the margin, while the coating of the stem is of the character of matted tomentum rather than "velvety." This coating is thinner and paler toward the apex. The pileus is 12 to 25 mm. broad; stem 5 to 7.5 cm. long, about 2 mm. thick; spores pip-shaped, 6 to 7 x 4 μ.

Marasmius calopus Pers.

Pileus a little fleshy, tough, convex-plane or depressed, even, at length rugose.

Lamellae emarginate-attached, thin, white.

Stem hollow, equal, glabrous, shining, reddish-brown.

Spores ellipsoid, 7 x 4 μ. Pileus 2 to 3.5 cm. broad; stem 5 to 7.5 cm. long.

On dead leaves and sticks in woods. July and August. Common. Pileus watery-white when wet; campanulate then flattened, stem whitish above in young plants; odor none. Spores ellipsoid, somewhat apiculate at one end, 6 to 7 x 3 to 4 μ.

Marasmius siccus Schw.

Pileus membranaceous, convex or campanulate, dry, glabrous, plicate-sulcate, ochraceous-red, the disk a little darker.

Lamellae attenuate-attached or nearly free, distant, whitish.

Stem hollow, horny, glabrous, shining, blackish-brown.

Pileus 1.3 to 1.8 cm. broad; stem 5 to 7.5 cm. long.

Among dead leaves in woods. July and August. Frequent. After protracted rains the plants are very large, up to 3 cm. in diameter. *M. campanulatus* Peck, is a synonym. A minute form with the pileus only 2 to 6 mm. broad was found at River Forest in June, 1902, growing on dead ligules of living culms of *Poa pratensis*. No spores were found.

Marasmius rotula Fr.

Pileus hemispherical, umbilicate and minutely umbonate, plicate, smooth, margin crenate, white or pale-buff with a dark umbilicus.

Lamellae broad, distant, attached to a free collar behind, pallid-white.

Stem slender, horny, slightly flexuous, white above, then tawny, deep shining brown at the base, striate, fistulose.

Pileus 2 to 6 mm. broad.

On twigs, leaves, etc., June to September. Our most common species. During dry weather the plants shrivel and dry up so that they are scarcely noticed, even in localities where they are abundant. After a heavy rain they may be seen in countless numbers. Pileus 4 to 8 mm. broad; stems 2.5 to 5 cm. long, very slender. Specimens collected in Schoolcraft County, Michigan, growing upon dead prostrate trunks were 2.5 cm. in diameter. With us the dimensions given above are rarely exceeded.

Marasmius nigripes Schw.

Pileus membranaceous, campanulate, umbonate, striate, somewhat pellucid, pure white.

Lamellae adnate, arcuate, rather broad, pure white, growing pale.

Stems somewhat bulbous, black, white-farinose.

The stems are 3.5 cm. long, black but wholly covered over with a white meal which may easily be rubbed off.

On dead leaves in woods. June, July. The white-mealy covering gives the stem a leaden-gray appearance. Pileus 8 to 16, exceptionally 25 mm. broad. Spores resembling in shape the seed of buckwheat. For a good figure of the species and of its peculiar spores, see Lloyd's Mycological Notes, No. 107.

LENTINUS.

Pileus fleshy-coriaceous, pliant, or in fleshy species becoming hard when old, persistent; hymenophore continuous with the stem or at the base of the pileus when sessile; lamellae concrete with the hymenophore, thin, unequal, membranaceous, with the edge serrated or torn in a toothed manner. Growing on wood. Spores somewhat round, even, white.

(Hennings, in Pflanzenfamilien I ** p. 222, reduces this to a subgenus of *Panus*, stating that the two genera cannot be separated for the reason that "in most of the *Lentinus* species the lamellae are entire; being serrate only in the fleshy kinds.")

Pileus stipitate 1
Pileus sessile ..... *L. pelliculosus.*
1. Pileus scaly. 2
1. Pileus villous ..... *L. Lecomtei.*
1. Pileus smooth. ..... *L. cochleatus.*
2. Pileus thick, convex or depressed. ..... *L. lepideus.*
2. Pileus thin, umbilicate ..... *L. tigrinus.*

Lentinus pelliculosus Fr.

Sessile, imbricated. Pileus tough, membranaceous, reniform, very thin, strigose, brown-tawny, the margin naked, involute.

Lamellae broad, torn, pallid. "Pileus strigose with a dense hairy coat like the skin of some animal." Morgan.

On a stump of *Quercus*, woods, Glencoe. September, 1902. The coating of the pileus is tawny-cinnamon on the disk, paler toward the margin, and is like a very coarse tomentum, the individual hairs or fibers of which are about 2 mm. in length. Spores pure white, globose, 3 μ. in diameter.

Lentinus Lecomtei Fr.

Pileus fleshy-tough, infundibuliform, reflexed, hairy, tawny.
Lamellae serrate, crowded, pallid.
Stem short, hairy.
Pileus 2.5 to 7.5 cm. broad.

On stumps of *Hicoria ovata*. Frequent. Soon destroyed by insect larvae. The pileus is usually more or less irregular in shape.

Lentinus cochleatus Fr.

Pileus flesh-color becoming pale, somewhat tan, fleshy-pliant, thin, commonly eccentric, imbricated, very unequal, somewhat lobed or contorted, sometimes plane, sometimes funnel-shaped-umbilicate, but not pervious, smooth.

Lamellae decurrent, crowded, serrated, white-flesh-color.

Stem solid, firm, sometimes central, most frequently eccentric, sometimes wholly lateral, always sulcate, smooth, flesh-colored upward, reddish-brown downward.

Pileus 5 to 7.5 cm. broad, stem 2.5 cm. or more long.

On a dead stump, Lisle. August. Densely caespitose. Margin of pileus strongly incurved; stems attenuated downward. Spores white, globose, 4 μ. in diameter, with a single shining nucleus.

Lentinus lepideus Fr.

Pileus pallid-ochraceous, variegated with darker, spot-like scales, fleshy, very compact and firm, irregular, commonly eccentric, convexed then depressed but not umbilicate, sometimes broken up into cracks, flesh pliant; white.

Lamellae decurrent but sinuate behind, crowded, broad, transversely striate, whitish, the edge torn into teeth.

Stem short, solid, stout, very irregularly formed, almost woody, tomentose-scaly, whitish, rooted at the base, at first furnished with a cortina at the apex.

Pileus 5 to 10 cm. broad; stem commonly 2.5 cm. long.

On old sidewalks, bridge timbers, etc. Summer and autumn. Frequent. Specimens found growing on pine (or hemlock?) foundation timbers of a bridge near Glen Ellyn, in June, 1900, are referred with some doubt to this species. They vary in having the lamellae deeply and unequally decurrent in the form of interrupted lines or ridges, and have the entire surface of the whitish stem broken up into darker squarrose scales. Spores pure white, elliptic-oblong, 9 x 6 μ.

Lentinus tigrinus Bull. (Plate VI, Fig. 2.)

Pileus fleshy-coriaceous, thin, orbicular, umbilicate, whitish; scales innate, hairy, blackish.

Lamellae adnate-decurrent, very narrow, white becoming yellowish.

Stem slender, not striate, scaly, the apex somewhat veiled.

Pileus about 5 cm. broad; stem 2.5 to 5 cm. long. Spores ellipsoid, 6.5 x 3.5 μ.

On rotten stumps in wet woods, Glen Ellyn. June to October. Some of our plants have perfect lamellae; others have them more or less covered with the mycelium of some parasitic fungus. The

latter form is *Lentodium squamulosum* Morg. (Journ. Cin. Soc. Nat. Hist. 18, p. 36.) The perfect and imperfect forms have not been found growing upon the same stump, but the two often occur in close proximity. It is not possible to determine from an inspection of the upper surface of the growing plants whether they have perfect or diseased gills. In many of the deformed specimens the original structure of the gills can be made out; in others they are so closely covered with a network of mycelial threads that the lamellae are entirely obscured. The stems of the perfect plants are slender; those of the diseased ones are apt to be somewhat irregularly thickened and deformed. The spores are identical in both, being white, elliptic-oblong, 6 to 7 x 3 μ.

Prof. Peck (N. Y. Mus. Rep't 25: 80), reports the occurrence of the species in New York, and adds: "Nearly all the specimens had the lamellae overgrown by a dense white mass of parasitic fungoid filaments." Professor Morgan's plants were apparently from a locality where the species is uniformly distorted by the parasitic fungus.

PANUS.

Fleshy, coriaceous, tough, drying up, of fibrous texture, which radiates into the hymenium; lamellae concrete with the hymenophore, unequal, at length coriaceous, edge quite entire. Growing on wood. Spores even, white, somewhat cylindrical. Some of the fleshy forms are quite close to *Pleurotus*. (See Hennings' note under *Lentinus*.)

Pileus 5 cm. or more broad, smooth . . . . . *P. torulosus.*
Pileus 3 cm. or less broad, furfuraceous . . . . . *P. stipticus.*

Panus torulosus Fr.

Pileus somewhat flesh-color, but varying rufescent-livid and becoming violet, entire but very eccentric, fleshy, somewhat compact when young, plano-infundibuliform, even, smooth; flesh pallid.

Lamellae decurrent, somewhat distant, simple, separate behind, reddish then tan-color.

Stem short, solid, oblique, tough, firm, commonly with gray but often violaceous down.

Pileus 5 to 7.5 cm. broad, stem about 2.5 cm. long; spores 6 x 3 μ.

On stumps. River Forest. November.

Panus stipticus Fr.

Pileus cinnamon, becoming pale, arid, thin, reniform, pruinose, the cuticle separating into furfuraceous scales.

Lamellae ending determinately thin, very narrow, crowded elegantly connected by veins, cinnamon.

Stem definitely lateral, compressed, dilated upwards, ascending, pruinose, paler than the lamellae.

Gregarious, cespitose; taste very astringent. Pileus 1.5 to 2.5 cm. broad; stem not reaching 2.5 cm. in length. Spores obovoid-sphaeroid, 2 to 3 x 1 to 2 μ.

On stumps. Autumn. Common.

LENZITES.

Tubes near the point of attachment, elongate, radiating, formed by the anastomosing of lamellae which are free at the margin.

Sessile, or accidentally resupinate.

Pileus pallid, margin concolorous..... *L. betulina.*
Pileus tawny-yellow, becoming date-brown, margin yellowish..... *L. sepiaria.*
Pileus dull-brown or grayish-brown, margin cinereous..... *L. vialis.*

Lenzites betulina Fr.

Pileus dimidiate, sessile, persistent, corky-coriaceous, obsoletely zonate, tomentose, pallid.

Lamellae straight, somewhat branched, anastomosing, sordid white.

On stumps, frequent. July to autumn, persisting through the winter. Pileus 5 to 7.5 cm. broad, projecting 2.5 to 5 cm., often imbricated and laterally concrescent; spores white, oblong, 6 to 8 x 3 μ., often curved.

Lenzites sepiaria Fr.

Pileus tawny-yellow when young (remaining so on the margin when full grown), becoming date-brown when full grown and black when old, corky-coriaceous, hard, convex becoming plane, sometimes orbicular, more frequently extended longitudinally, zoned, strigose-tomentose, at length squamulose and pitted; flesh tawny.

Lamellae extended to the base, very rigid and firm, branched, more or less anastomosing, yellowish becoming umber, the edge entire or slightly toothed.

On pine stumps and prostrate trunks, Millers. On the stump of a pine street tree, Wheaton. At the first the border of the pileus is whitish and somewhat floccose-tomentose, but soon changes to orange-tawny. When growing on the sides of a stump the plants are dimidiate and imbricated; those growing on the flat, squared surface of a stump remain more or less orbicular, forming resupinate areas with a narrow gill-bearing border.

Lenzites vialis Pk. (Plate VIII, Fig. 1.)

Pileus coriaceous, sessile, dimidiate or elongated, sometimes confluent, obscurely zoned, subtomentose, brown or grayish-brown, the margin cinereous.

Lamellae thin, abundantly anastomosing, pallid, cinereous-pruinose on the edge when fresh. Pileus 12 to 24 mm. broad.

Not as bright colored as *L. sepiaria*, nor so distinctly zoned; the lamellae closer, thinner and more anastomosing, forming pores toward the outer margin almost as in the genus *Polyporus*.

On railroad ties, Evanston. Gammon. Waukegan. Usually blackened by the dirt of passing trains. On pine logs. Millers, Ind. May be a synonym of *Daedalea pallido-fulva* Berk.

SCHIZOPHYLLUM.

Pileus fleshless, arid; lamellae coriaceous, fan-wise branched, united above by the tomentose pellicle, bifid, split longitudinally at the edge, the two halves commonly revolute. Growing on wood.

Spores somewhat round, white.

Schizophyllum commune Fr.

Pileus adnate behind, somewhat extended, simple and lobed.

Lamellae gray then brownish-purple, villous, the edge revolute.

Spores very small, almost globular (W. G. Smith); oblong, somewhat apiculate, 5 to 6 x 2.5 μ. (A. P. Morgan.)

Upper surface of the pileus whitish or gray, densely tomentose, margin strongly involute, so that the plants are conchate in form, 5 mm. to 2.5 cm. broad. Spores white, oblong but somewhat irregular in outline, 5 to 6 x 1.5 μ. Common on dead twigs and branches of various trees, August to January. Often growing luxuriantly during mild weather in midwinter.

VOLVARIA.

Universal veil free, persistent, distinct from the epidermis of the pileus, constituting a volva; hymenophore distinct from the stem; lamellae rounded behind and free, ventricose. Spores rosy.

Pileus viscous or glutinous 1
Pileus dry, fibrillose 2

1. Pileus gray, disk umber ..... *V. speciosa.*
1. Pileus fuliginous ..... *V. gloiocephala.*
2. Pileus 7 cm. or more broad ..... *V. bombycina.*
2. Pileus 10 to 15 mm. broad ..... *V. pusilla.*

Volvaria speciosa Fr.

Pileus whitish, gray or umber at the disk, fleshy, globose when young, then campanulate, at length plane and somewhat umbonate, even, smooth, viscous; flesh soft, floccose, white.

Lamellae free, flesh-colored.

Stem solid, firm, slightly attenuated from the base as far as the apex, when young white-villous and tomentose at the base, then becoming smooth, white. Volva bulbous rather than lax, free however, variously torn into loops, membranaceous, externally tomentose, white.

Pileus 7.5 to 12.5 cm. broad; stem 10 to 20 cm. long, as much as 2.5 cm. thick. Spores ellipsoid or ellipsoid-sphaeroid, 12 to 18 x 8 to 10 μ.

Rich soil of an alley; Ravenswood. May. Pepoon.

Volvaria gloiocephala Fr.

Pileus fuliginous, fleshy, campanulate then expanded, umbonate, smooth, glutinous, striate at the margin.

Lamellae free, reddish.

Stem solid, smooth, becoming fuscous or tawny, the volva which is circularly split, pressed close.

Pileus about 7.5 cm. broad; stem 15 cm. or more high, about 1.5 cm. thick in the center, attenuated upwards, bulbous at the base. Smell strong and unpleasant, taste disagreeable. Very poisonous.

Roadside in decaying rubbish at the edge of a woodpile, near Riverside, May, 1899. The specimens were determined as above by Mr. C. G. Lloyd. It may, however, be *V. speciosa*. More material is needed to set aside all doubt.

Volvaria bombycina Schaeff.

Pileus fleshy, soft, campanulate then expanded, subumbonate, silky, fibrillose, self-colored.

Lamellae flesh-colored. Stem solid, attenuated, smooth. Volva very large.

On decayed wood.

A single specimen was found by Mr. Arthur Gammon, upon a dead street tree (*Acer dasycarpum*), Wheaton, October, 1898. Our plant has a pileus 7 cm. in diameter; stem 7.5 cm. long, 12 mm. thick. Spores broadly ellipsoid or subglobose, 6 to 7 x 5 μ. The stem is curved upward like that of *Pleurotus ulmarius;* the lamellae somewhat crowded and remarkably distant, there being an interval of 3 to 5 mm. between their point of insertion and the apex of the stem. A single specimen was found by Miss Jennette Lawrence, upon a living street tree, Wheaton, June, 1900, and one by Mr. John W. Sercomb, in woods at Dolton, July, 1901.

Volvaria pusilla Pers.

Pileus explanate, white, fibrillose, dry, striate, center slightly depressed when mature.

Lamellae white, becoming flesh-color, free, distant.

Stem white, glabrous. Volva split to the base into four nearly equal segments. Spores broadly ellipsoid, almost globose, 5 to 6 μ.

Among weeds in a garden, Wheaton, July, 1902. The following additional characters are noted. Lamellae broad, rounded behind, very broad and truncate in front. Stem slightly pubescent at the apex. Volva membranous, pallid, wholly above the ground, split nearly to the base into three subequal segments. Pileus 10 mm. broad; stem 15 mm. long, a little more than a millimeter thick. Spores pink, subglobose, 5 to 6 μ.

PLUTEUS.

Without a volva or ring; hymenophore distinct from the stem; lamellae rounded behind and free, cohering at the first, white, then flesh-colored, occasionally tinged with yellow. Growing on or near trunks. Spores rosy.

Pileus with a smooth pellicle ..... *P. cervinus.*
Pileus granulose or fibrillose 1
1. Stem concolorous with the pileus ..... *P. granularis.*
1. Stem white ..... *P. nanus.*

Pluteus cervinus Schaeff.

Pileus fleshy, somewhat fragile, campanulate then expanded, obtuse, when young covered over with a continuous pellicle which is viscid in wet weather, becoming even, smooth, fuliginous, but gradually broken up into fibrils or squamules, margin entire and naked; flesh soft, white.

Lamellae rounded behind, wholly free, crowded, ventricose, somewhat crenulated, white then flesh-color.

Stem solid, firm, equal, white but externally reticulated or striate with black fibrils.

On stumps and fallen trunks. Frequent. May to November. Pileus 5 to 7.5 cm. broad; stem 7.5 to 10 cm. long, 8 to 12 mm. thick. Spores in our plants subsphaeroid, slightly irregular, 5 to 6 μ.

Pluteus granularis Pk.

Pileus convex or nearly plane, subumbonate, granulose or granulose-villose, varying in color from yellow to brown.

Lamellae rather broad, crowded, ventricose, whitish then flesh-colored.

Stem equal, solid, colored like the pileus, often paler at the top, velvety-pubescent, rarely squamulose.

Pileus 3.5 to 5 cm. broad; stem 3.5 to 7.5 cm. long, 2 to 4 mm. thick. Spores subglobose or broadly elliptical, 6 to 7.5 x 5 to 6 μ. Decaying wood and prostrate trunks in woods, June to September.

On dead wood. Bowmanville. July. Collected and identified by Wyrick.

Pluteus nanus Pers.

Pileus convex, rather thin, fibrillose or somewhat mealy, brown.

Lamellae rather broad, a little narrower outwardly, white, becoming pale flesh-color, free.

Stem white, firm, striate, solid.

Pileus about 2.5 cm. broad; stem 2.5 to 5 cm. long.

On decaying stumps in woods. Glen Ellyn and River Forest. June and July. Spores globose, about 5 μ.

ENTOLOMA.

Veil wanting; stem fibrous, soft, sometimes waxy; pileus somewhat fleshy, margin incurved; hymenophore continuous with the stem; lamellae sinuate-adnexed behind or separating. Growing on the ground. Spores rosy, angular.

Pileus hygrophanous 1
Pileus not hygrophanous 2

1. Stem fibrillose, stuffed then hollow ..... *E. clypeatum.*
1. Stem smooth, hollow ..... *E. rhodopolium.*
2. Stem solid, white ..... *E. grande.*
2. Stem becoming hollow, white streaked with black ..... *E. nigricans.*

Entoloma clypeatum L.

Pileus lurid when moist, when dry gray and variegated or streaked with darker spots or lines, fleshy, campanulate then flattened, umbonate, smooth, fragile.

Lamellae rounded-adnexed, separating free, 6 to 12 mm. broad, ventricose, somewhat distant, dingy, then red-pulverulent with the spores, serrulated on the edge, chiefly behind.

Stem stuffed, at length hollow, wholly fibrous, equal, round, fragile, longitudinally fibrillose, becoming cinereous, pulverulent at the apex.

Pileus 7.5 cm. broad; stem 7.5 cm. long, 6 to 12 mm. thick.

On the ground in woods. Riverside. May. Wyrick. According to McIlvane the species is poisonous.

Entoloma rhodopolium Fr.

Pileus hygrophanous, when young or moist fuscous or livid, becoming pale when full grown, when dry isabelline-livid, silky-shining, slightly fleshy, campanulate then expanded and somewhat umbonate, at length rather plane and sometimes depressed, fibrillose when young, smooth when full grown; flesh white.

Lamellae adnate then separating, somewhat sinuate, slightly distant, 4 to 8 mm. broad, white then rose-color.

Stem hollow, equal when smaller, when larger attenuated upwards, and white pruinate at the apex, otherwise smooth, slightly striate, white.

Spores irregular, angled, 6 to 10 μ.

A plant found in the woods at Dolton, by Mr. J. W. Sercomb, was referred by him to this species. In luxuriant specimens the stems were enlarged at the apex, in smaller ones equal. Spores with irregular angles, 8 to 10 μ.

Entoloma grande Pk.

Pileus fleshy, thin towards the margin, glabrous, nearly plane when mature, commonly broadly umbonate and rugosely wrinkled about the umbo, moist in wet weather, dingy yellowish-white verging to brownish or grayish-brown; flesh white; odor and flavor farinaceous.

Lamellae broad, subdistant, slightly adnexed, becoming free or nearly so, often wavy or uneven on the edge, whitish, becoming flesh-colored at maturity.

Stem equal or nearly so, solid, somewhat fibrous externally, mealy at the top, white.

Pileus 10 to 15 cm. broad; stem 10 to 15 cm. long, 16 to 24 mm. thick; spores angular, 8 to 10 μ.

Specimens agreeing with the description, except in size, were found by Mr. Gammon, growing on the ground in woods at Glen Ellyn, September, 1900. In these plants the pileus was only 9 cm. broad, the stems 11.5 cm. long, about 18 mm. thick; spores angular, about 9 μ.

Entoloma nigricans Pk.

Pileus thin, convex, becoming irregularly expanded and centrally depressed, innately silky-fibrillose, shining, dark-gray or blackish, the cuticle often radiately cracking, inodorous.

Lamellae broad, subdistant, sinuate, adnate, salmon color.

Stem equal, silky-fibrillose, solid then hollow, shining, white streaked with black, sometimes scurfy at the top.

Spores salmon-color, angular, uninucleate, 8 to 12 μ. long, nearly as broad. Pileus 2.5 to 4 cm. broad; stem 2.5 to 5 cm. long, 4 to 8 mm. thick.

In low woods, River Forest, August, 1905. Easily overlooked as the surface of the pileus is colored so nearly like the dead leaves and naked earth on which the plant grows. Lamellae at first whitish, irregularly attached, sometimes deeply sinuate and adnate, sometimes scarcely sinuate but somewhat decurrent. Spores about 10 μ. in diameter.

CLITOPILUS.

Stem fleshy or fibrous, diffused upward into the pileus, the margin of which is at first involute; hymenophore continuous with the stem; lamellae equally attenuated and somewhat decurrent, not separating or sinuate. Growing on the ground. Spores rosy.

Pileus silky-tomentose ..... *C. abortivus.*
Pileus finely pruinose ..... *C. prunulus.*
Pileus glabrous ..... *C. caespitosus.*

Clitopilus abortivus B. & C.

Pileus fleshy, firm, convex or nearly plane, regular or irregular, dry, clothed with a minute silky tomentum, becoming smooth with age, gray or grayish-brown; flesh white, taste and odor subfarinaceous.

Lamellae thin, close, slightly or deeply decurrent, at first whitish or pale gray, then flesh-colored.

Stem nearly equal, solid, minutely flocculose, sometimes fibrous-striate, colored like or paler than the pileus.

Spores irregular, 7.5 to 10 x 6 μ.

On the ground in woods, Bowmanville, Thatchers and Glen Ellyn. September and October. Somewhat gregarious and cespitose. Pileus 5 to 10 cm. broad, stem 2.5 to 10 cm. long. The stem is often pure white downwards, usually cottony-tomentose about the base. An intricate plexus of mycelium intermixed with dead leaves, earth or twigs usually adheres to the plant when it is pulled up. The spores are subelliptic in general outline, but very irregular, often apiculate at one of the angles.

Clitopilus prunulus Scop.

Pileus white or cinereous, fleshy, compact, convex then flattened and at length depressed and repand or unequal, delicately pruinose; flesh thick, white.

Lamellae deeply decurrent, attenuated at both ends, somewhat distant, entire, white then flesh-color.

Stem solid, firm, somewhat ventricose, naked, often striate, white, villous at the base.

Pileus 5 to 10 cm. broad; stem 2.5 cm. long, about 12 mm. thick.

On the ground among dead leaves in woods, Glen Ellyn. August and September. Pileus 5 to 10 cm. broad, very much waved or lobed, pure white, odor farinaceous. Spores flesh-color, ellipsoid, bluntly pointed at one or both ends, 12 x 6 μ.

Clitopilus caespitosus Pk.

Pileus at first convex, firm, regular, shining, white, then nearly plane, fragile, often irregular or eccentric, glabrous but with a slight silky luster, even, whitish; flesh whitish, taste mild.

Lamellae narrow, thin, crowded, often forked, adnate or slightly decurrent, whitish, becoming dingy or brownish-pink.

Stems cespitose, solid, silky-fibrillose, slightly mealy at the top, white.

Spores 5 x 4 μ. Pileus 5 to 10 cm. broad; stem 3 to 7.5 cm. long, 4 to 8 mm. thick.

In long grass in Chicago parks. September. Dr. Watson.

LEPTONIA.

Stem cartilaginous, tubular (the tube hollow or stuffed), polished, somewhat shining; pileus thin, umbilicate or with a darker disk, cuticle fibrillose or separating into darker scales, margin at first incurved; lamellae at first adnexed or adnate, but readily separating. The species are small and brightly colored, growing in troops. Spores rosy, irregular.

Leptonia asprella Fr.

Pileus hygrophanous, at first fuliginous then livid-gray, somewhat membranaceous, convex then flattened, the darker umbilicus villous at length squamulose marked with spots, striate, sometimes (the disk excepted) smooth, sometimes fibrillose.

Lamellae adnate, separating free, somewhat distant, plane, equally attenuated from the stem toward the margin, whitish-gray.

Stem cartilaginous, fistulose, thin, equal, tense and straight, even, smooth, typically livid, white villous at the base. The stem varies fuscous, green and azure-blue.

Pileus 2.5 to 3.5 cm. broad; stem 2.5 to 5 cm. long, scarcely 2 mm. thick.

Among mosses, border of swamp, Millers. August. Pileus 12 mm. to 2.5 cm. broad; stem bluish lead-color, 2.5 to 6 cm. long; spores irregular, somewhat angled, apiculate at one end, about 10 x 7 μ.

ECCILIA.

Stem cartilaginous, hollow or stuffed, expanding upward into the pileus, which is more or less membranous and at first inflexed at the margin; lamellae attenuated behind, decurrent.

Eccilia rhodocylix Lasch.

Pileus membranous, rugulose, floccose, soft, umbilicate then infundibuliform, remotely striate when moist, flocculose when dry.

Lamellae strongly decurrent, distant, thick, whitish then flesh-color.

Stem stuffed, slender, incurved, even, smooth, cinereous.

Spores oval, pentangular, 10 μ.

On mossy ground in moist woods, Glen Ellyn, June, 1905. The pileus is dark gray and sulcate-striate when moist, whitish-gray and finely silky-striate when dry. The stem is thickened above, mouse-color and semi-pellucid when moist, grayish and opaque when dry, often with a tuft of white silky fibers at the base. Taste mild, mealy. Pileus 5 to 15 mm. broad; stem 15 to 25 mm. long, 1 to 2 mm. thick; spores rosy-pink, pentangular, 8 to 10 μ., often with an oblique apiculus at one of the angles.

E. pentagonospora Atk. (Journ. Myc. 8: 113) may perhaps be a synonym, the description agreeing well with the hygrophanous state of our plant.

CLAUDOPUS.

Pileus eccentric, lateral or resupinate; spores rosy or salmon-colored. Growing on wood, rarely on the ground.

Pileus yellow..... *C. nidulans.*
Pileus white..... *C. variabilis.*
Pileus gray..... *C. byssisedus.*

Claudopus nidulans Pers. (Plate VIII, Fig. 2.)

Pileus sessile or rarely narrowed behind into a short, stem-like base, often imbricated, suborbicular, dimidiate or reniform, tomentose, somewhat strigose-hairy or squamulose-hairy toward the margin, yellow or buff color, the margin at first involute.

Lamellae rather broad, moderately close, orange-yellow.

On decaying trunks of *Populus*, woods, Glencoe. Autumn. The fresh plant has a strong, unpleasant odor. According to Prof. Morgan, this is the same as *Panus dorsalis* Bosc.

Pileus 2.5 to 10 cm. broad, projecting 2.5 to 7.5 cm.; spores elliptical, slightly curved, 6 to 7.5 x 3 to 4 μ.

Claudopus variabilis Fr.

Pileus white, slightly fleshy, resupinate then reflexed, even, tomentose, sessile or with a very short stem.

Lamellae broad, radiating from a lateral or eccentric point, white then pink.

Pileus 8 to 16 mm. broad; spores even, ellipsoid, rusty-pink, 6 x 3 μ.

On dead leaves, twigs and grasses, Lombard. Lamellae at first white, at length rusty-pink. Spores oblong or elliptic-oblong, often curved.

Claudopus byssisedus Pers.

Pileus gray, becoming pale when dry, slightly fleshy, at length horizontal, reniform, plane, even, villous; flesh of the same color, thin.

Lamellae adnate-decurrent, ventricose, rather broad, whitish-cinereous then rubiginous with the spores.

Stem incurved, villous, attenuated upwards, zoned at the base with white cottony fibrils.

On the ground in a shaded clay bank, Glen Ellyn. August. Among moss on a rotten stump, Riverside. July. Spores rosy flesh-color, irregularly angled with an apiculus at one end, 10 x 7 to 8 μ.

PHOLIOTA.

Lamellae not separating readily from the hymenophore; ring continuous (not arachnoid). Spores ferruginous, ochraceous-ferruginous or fuscus-ferruginous. The genus passes into Flammula without distinct limits.

Pileus not hygrophanous 1
Pileus hygrophanous . . . . . *P. marginata.*
1. Pileus dry 2
1. Pileus viscid 3
2. Pileus smooth, stem white . . . . . *P. praecox.*
2. Pileus innate-flocculose, stem light-yellow . . . . *P. curvipes.*
3. Pileus yellow, stem scaly . . . . . *P. adiposa.*
3. Pileus tawny, stem fibrillose . . . . . *P. comosa.*

Pholiota marginata Batsch.

Pileus honey-colored when moist, tan when dry, hygrophanous, slightly fleshy, convex then expanded, obtuse, even, smooth, margin striate.

Lamellae adnate, crowded, thin, narrow, at first pallid then darker cinnamon.

Stem fistulose, equal, fibrillose or slightly striate, not scaly, of the same color as the pileus, but becoming fuscous and commonly white-velvety at the base.

Pileus 2.5 cm. or more broad; stem 5 cm. long, 2 to 4 mm. thick.

Spores 7 to 8 x 4 μ. (Massee.)

On rotten logs in woods. Autumn. Our plants are referred with some doubt to this species, although they agree well with the figure in Atkinson's Studies, f. 143. They have, however, some of the characters ascribed to *P. mutabilis* Schaeff. The lamellae instead of being adnate, are sometimes, in large specimens, plainly decurrent; the pileus is cinnamon when moist; the stem which is often incurved from position, is commonly enlarged downwards, stuffed then hollow. The spores are ovate, ferruginous, 10 x 6 μ.

Pholiota praecox Pers.

Pileus whitish then tan-color, fleshy, soft, convex, soon plane, obtuse, even, smooth, moist in rainy weather; flesh soft, white.

Lamellae rounded-adnexed, crowded, whitish then fuscous.

Stem stuffed, hollow upwards, equal, even, fragile, at first mealy with white flocci then somewhat naked, white; ring entire, reflexed, white.

Spores sphaeroid-ellipsoid, 8 to 15 x 5 to 7 μ. Pileus 7.5 cm. broad; stem 7.5 to 10 cm. long, 6 to 8 mm. thick.

On railroad station grounds, Wheaton, June, 1905. In all of our specimens the veil is wholly appendiculate, leaving no trace on the stem. On this account they were referred to the genus *Hebeloma*. Prof. Peck, however, assures me that the plant is *Pholiota praecox*, and states that it is variable in the method of attachment of the veil. The upper part of the stem is strongly granular-pubescent. The lamellae in drying become much darker than the color of the spores. Mr. Worthington G. Smith, in Synopsis of Basidiomycetes in the British Museum, p. 121, has proposed a new genus, *Togaria*, for this and other species of *Pholiota* in which the pileus is nearly distinct from the fleshy stem.

Pholiota curvipes Fr.

Pileus tawny-yellow or orange, fleshy, thin but slightly firm and tough, convex then expanded, obtuse, wholly innate-flocculose then torn into minute scales, dry, not hygrophanous.

Lamellae adnate, crowded, light yellowish, at length tawny, edge white, at length floccose-crenate.

Stem fistulose, equal, incurved, tough, fibrillose or delicately squamulose, light yellow. Ring rarely manifest, commonly floccose-radiate, soon vanishing.

Pileus 2 to 5 cm. broad; stem 2.5 to 3.5 cm. long, 2 mm. or a little more thick.

On a rotten log of *Tilia americana* in woods. Glen Ellyn. June. Pileus 2 to 3 cm. broad, the curved stem 1.5 to 2.5 cm.

long. Spores ellipsoid, ochraceous-tawny, 7 x 4 μ. The scales of the pileus are brown-tipped when the plants are mature.

Pholiota adiposa Fr.

Pileus fleshy, firm, at first hemispherical or subconical, then convex, viscid when moist, shining when dry, squamose, yellow; flesh whitish.

Lamellae close, adnate, yellowish, becoming ferruginous with age.

Stem equal or slightly thickened at the base, squamose below the slight radiating annulus, solid or stuffed, yellow, generally ferruginous at the base.

Pileus 5 to 10 cm. broad; stem 5 to 10 cm. long, 8 to 12 mm. thick; spores ellipsoid, 7.5 x 5 μ.

Decayed crevices in bark, or knot-holes in living trees. Thatchers, Wyrick. Wheaton, Gammon. A colony of over fifty plants was found in the hollow trunk of a living street tree, Wheaton, October, 1900. The species is edible.

Pholiota comosa Fr. (Plate IX, Fig. 1.)

Pileus tawny, sprinkled with paler, superficial separating scales, fleshy, convex then flattened, obtuse, viscous; flesh compact, white.

Lamellae adnate-decurrent, not much crowded, white, becoming fuscous clay-color.

Stem solid, when young very compact, hard, somewhat bulbous then elongated, somewhat equal, fibrillose, white. Ring more or less in the form of a cortina, floccose, moderately persistent.

On decorticated log of *Ulmus americana*. Woods, River Forest. October, 1903. Identified by Prof. Peck. The spores in mass on white paper are rich umber, not "fuscous-ferruginous" as above described. They measure 10 x 6 μ.

INOCYBE.

Universal veil somewhat fibrillose, concrete with the cuticle of the pileus, often free at the margin in the form of a cortina; lamellae somewhat sinuate, changing color; spores rough or even, fuscous-ferruginous.

Stem stuffed 1
Stem solid 2

1. Pileus campanulate, subumbonate, stem bulbous, spores stellate ..... *I. asterospora.*
1. Pileus conico-expanded, stem not bulbous, spores smooth ..... *I. geophylla.*
2. Pileus obtuse, umber, becoming yellowish, spores rough ..... *I. lanuginosa.*
2. Pileus convex-expanded, umbonate, tawny-gray, spores rough ..... *I. rigidipes.*
2. Pileus conic-campanulate then expanded, yellow-brown, spores smooth ..... *I. rimosa.*

Inocybe asterospora Quel.

Pileus bistre, stuffed with brown striae, convex, umbonate, cracked.

Lamellae emarginate, ventricose, whitish-bistre then cinnamon.

Stem stuffed, firm, bulbous, furnished with a separable cuticle, reddish, pubescent, with brown striae.

Spores subglobose, warted, 10 to 11 μ.

Under trees in open woods. Winfield. September. Pileus 1.5 to 2.5 cm. broad; stem 2.5 to 5 cm. long. The bulb is small and submarginate. Bears a superficial resemblance to *I. rimosa*, but the spores of the latter species are even.

Inocybe geophylla Sow.

Pileus normally white, somewhat fleshy, conical then expanded, umbonate, dry, becoming silky-even, then covered with long longitudinal fibrils from the cuticle gaping open; flesh white.

Lamellae rather broad, crowded, ventricose, almost free, whitish then clay-fuscous, at length earth-colored.

Stem stuffed, slightly firm, equal, commonly tense and straight, smooth, white or tinged with the color of the pileus and white-mealy at the apex; cortina fibrillose.

The pileus varies in color, violaceous-lilac, fuscous, brick-red or yellowish.

Pileus 1 to 2 cm. high and broad; stem 5 to 7.5 cm. long, 2 to 4 mm. thick.

Woods, Winfield, Glen Ellyn and Glencoe. June and July. Pileus in our plants often nearly white, varying isabelline.

Inocybe lanuginosa Bull.

Pileus umber, becoming yellow, slightly fleshy; campanulate becoming expanded, somewhat umbonate, floccose-scaly; flesh of pileus and stem whitish.

Lamellae separating free, broad, ventricose, crowded, pallid clay-color.

Stem solid, tough, equal, whitish-fuscous, squamulose-fibrillose with fuscous down at the base, white-pulverulent at the apex.

Pileus 2.5 cm. broad; stem 3 to 5 cm. long, 2 to 4 mm. thick.

On the ground in woods, Glencoe. According to Massee, *Agaricus subuletorum* B. and C., Grev. 19: 103, is a synonym.

Inocybe rigidipes Pk.

Pileus thin, convex or subcampanulate becoming expanded, umbonate, squamulose, striate on the margin when dry, tawny-gray.

Lamellae broad, subdistant, narrowed behind, slightly adnexed, tawny-ochraceous, commonly whitish on the edge.

Stem rather slender, flexuous, rigid, firm, solid, slightly pruinose, colored like the pileus.

Spores globose, echinate, 12.5 μ. Pileus 12 to 24 mm. broad; stem 4 to 6 cm. long, 2 mm. thick.

On the ground in open woods. Winfield. September. Mr. Massee, in Monograph Inocybe, Ann. Bot. 18: 469, states that this is a synonym of *I. calospora* Quel., the cystidia and spores being identical. Our specimens agree with Professor Peck's description as given above, but differ from the description and figure of *I. calospora* (Bres. Fung. Trid. I: 19, tab. 21) in having the pileus wholly fibrillose-squamulose, and the stem flexuous and pruinose throughout. Prof. Peck notes that the dried shriveled stems resume their fresh plump condition when soaked in water, a character well shown in our plants.

Inocybe rimosa Bull.

Pileus yellowish, varying rufescent and date-brown, fleshy, conic-campanulate then flattened, at length reflexed, umbonate, somewhat fibrillose, longitudinally cracked, disk even or cracked; flesh firm, white.

Lamellae very much attenuated behind, free or slightly adnexed, somewhat ventricose, whitish becoming fuscous, at length ferruginous, edge serrulated, pallid.

Stem solid, firm, longitudinally fibrous within, occasionally bulbous, mealy upwards, becoming yellow or fuscous.

Pileus 2.5 to 5 cm. broad; stem 5 to 7.5 cm. long, 6 to 8 mm. thick. Spores ellipsoid, even, 10 to 14 x 5 to 8 μ. Odor earthy. Subgregarious.

The plant so referred is our most common species, being found under trees and in grassy places in open woods during late summer and autumn; usually gregarious. The lamellae, however, are broadly emarginate, and, while slightly attached, are decurrent-toothed; otherwise the species agrees well with the above description and with Cooke's figure, Ill'st. pl. 384. The bulb, which is flattened above, is found only in large specimens. The stem, though tough elsewhere, is fragile at the very base, and unless the plants are taken up carefully the bulb may be left in the ground unnoticed.

HEBELOMA.

Partial veil fibrillose or wanting; stem fleshy, fibrous, clothed somewhat mealy at the apex; margin of the pileus at first incurved; lamellae sinuate-adnate, the edge more or less of a different color, whitish; cuticle of the pileus continuous, smooth, somewhat viscid.

Spores somewhat clay-colored. Growing on the ground.

Lamellae rounded-adnexed, stem at length hollow..... *H. crustiliniforme.*

Lamellae strongly emarginate, stem solid..... *H. fastibile.*

Hebeloma crustiliniforme Bull.

Pileus pale whitish-tan, pale yellowish or brick-color at the disk, fleshy, convex-plane, obtuse or slightly gibbous with an obtuse umbo, somewhat repand, even, smooth, at first slightly viscid.

Lamellae rounded-adnexed, crowded, whitish then clay-color, at length date-brown, distilling watery drops in wet weather.

Stem stuffed then hollow, stout, somewhat bulbous, white, naked, white-squamulose at the apex.

Gregarious in a lawn. Wheaton. In plants that appeared in August, the pileus was 2.5 to 5 cm. broad; in those occurring in September and October it was much larger, up to 10 cm., and often rimosely cracked when old. It has the odor of radish. Spores ellipsoid, 10 to 12 x 5 to 6 μ.

Hebeloma fastibile Fr.

Pileus yellowish, tan, or becoming pale, compactly fleshy, convex-plane, obtuse, somewhat repand, even, smooth, the involute margin pubescent.

Lamellae remarkably emarginate, somewhat distant, rather broad, dingy clay-color, edge whitish, distilling drops in rainy weather.

Stem solid, wholly fleshy-fibrous, often twisted, white-silky and fibrillose, pallid, white-scaly upwards.

Pileus 5 to 6.5 cm. broad; stem 5 to 6.5 cm. long, 12 mm. thick.

On the ground in shaded thicket, Glen Ellyn. September. The stem in our plant is somewhat hollow, and the pileus whitish, approaching the variety *alba*. Spores ochraceous clay-color, 9 to 10 x 6 to 7 μ.

FLAMMULA.

Veil fibrillose or none; pileus fleshy, the margin at first involute; lamellae decurrent or adnate without a sinus. Usually growing on wood. Spores mostly pure ferruginous, occasionally tawny-ochraceous or fuscous-ferruginous.

	Pileus dry	1
	Pileus viscid	2
1.	Pileus golden-tawny	*F. sapinea.*
1.	Pileus pale yellow or buff	*F. magna.*
2.	Pileus greenish-yellow or purplish	*F. polychroa.*
2.	Pileus pale-whitish	*F. lenta.*
2.	Pileus light-yellow	*F. spumosa.*

Flammula sapinea Fr. (Plate IX, Fig. 2.)

Pileus fleshy, compact, hemispherical or convex, becoming expanded, obtuse, dry, slightly flocculose-squamulose when young, often becoming rimose and paler with age, golden-tawny, paler and shining on the margin; flesh yellowish, odor strong.

Lamellae broad, close, adnate, becoming tawny-cinnamon.

Stem short, often unequal or irregular, compressed and sulcate, stuffed or hollow, yellowish or pallid.

Pileus 2.5 to 7.5 cm. broad; stem 2.5 to 5 cm. long, 6 to 10 mm. thick. Spores ochraceous, 7.5 x 5 μ.

On rotting pine logs, Millers, Ind., October. Stem usually incurved from position.

Flammula magna Pk.

Pileus fleshy, broadly convex, soft, dry, fibrillose or somewhat virgate, pale yellow or buff, the margin commonly becoming revolute with age; flesh whitish or yellowish.

Lamellae close, adnate or slightly decurrent, often crisped or wavy toward the stem, ochraceous.

Stem equal or thickened toward the base, fleshy-fibrous, solid, elastic, fibrillose, colored like the pileus, brighter yellow within. Spores subellipsoid, 10 x 6 μ.

Cespitose. Pileus 10 to 15 cm. broad; stem 7.5 to 10 cm. long, 16 to 24 mm. thick.

Woods. Highland Park. Collected and identified by Dr. Watson.

Flammula polychroa Berk. (Plate X, Figs. 1, 2.)

Pileus convex then plane, broadly umbilicate, of many colors, at first purple, viscid, the disk fleshy.

Lamellae broad, rather distant, adnate, slightly decurrent, at first dirty-white, then brownish-purple, at length yellow-brown.

Stem firm, somewhat woody, at first furfuraceous; veil floccose, yellowish-purple.

Pileus 5 to 7.5 cm. broad, stem 2.5 to 3.5 cm. long; spores 6 to 8 x 4 to 5 μ.

On rotten trunks, Thornton, Glen Ellyn, Lisle. The pileus when moist is shining and of a peculiar greenish-yellow, the yellow tints being more pronounced toward the disk. It is clothed with flocci or scales which have the appearance of ferruginous stains. When dry, the color is yellowish-gray. The annulus is evanescent, being little more than a border of scales of larger size than those which clothe the lower portion of the stem. The stem is slender in proportion to the size of the plant.

Flammula lenta Pers.

Pileus pale-whitish, disk often clay-color, fleshy, convex then plane, obtuse, even, smooth, but very glutinous in wet weather; flesh concolorous.

Lamellae adnate, decurrent with a tooth, crowded, 2 to 4 mm. broad, whitish, at length stained with the ferruginous spores.

Stem somewhat stuffed, tough, equal, often viscid, whitish or becoming light-yellow and villous at the base, clothed with white floccose reflexed scales.

Over buried roots of an oak stump. Winfield. October, 1904. Gregarious, flesh white, that of the stem at length brownish toward the base. The lower third of the stem often becomes distinctly hollow as the plants mature.

Flammula spumosa Fr.

Pileus pallid light-yellow, disk often darker, slightly fleshy, convex then plane, somewhat umbonate, viscous, flesh pale greenish-yellow.

Lamellae adnate, close, pale-yellow becoming ferruginous.

Stem slender, hollow, equal or tapering downwards, yellowish, generally becoming brownish toward the base.

Pileus 2.5 to 5 cm. broad; stem 2.5 to 7.5 cm. long, 4 mm. thick. Spores ellipsoid, dark ferruginous, 7.5 x 4 to 5 μ.

Gregarious in a lawn. Wheaton. In open woods. Glen Ellyn. September and October.

NAUCORIA.

Veil none or fugacious, squamulose; stem cartilaginous, fistulose or spongy-stuffed; pileus more or less fleshy, convex-plane or conical, the margin at first inflexed; lamellae adnate or free, not decurrent. Growing on the ground, somewhat rooted. Spores ferruginous.

Pileus not hygrophanous.....*N. semiorbicularis.*
Pileus hygrophanous.....*N. vernalis.*

Naucoria semiorbicularis Fr.

Pileus a little fleshy, hemispheric, expanded, even, glabrous, somewhat viscid, at length rivulose.

Lamellae adnate, very broad, close, pallid then ferruginous.

Stem slender, tough, almost straight, pale-ferruginous, shining, with a free tubular pith.

Pileus 2.5 to 5 cm. broad; stem 7.5 to 10 cm. long, 2 mm. thick.

Peaty ground in a partially drained slough, Palos Park. May. Our plants are slightly viscid when young, becoming dry. The color of the pileus in mature plants is ochraceous-tan, of the stem whitish. Spores pyriform or ellipsoid, 11 to 13 x 6 to 8 μ.

Naucoria vernalis Pk.

Pileus thin, fleshy, convex then a little depressed with a deflexed margin, umbonate, hygrophanous, dull-yellow, darker when moist.

Lamellae narrow, attached, cinnamon-color.

Stem long, flexuous, striate-sulcate, hollow, tapering downward, white-villous at the base, brownish.

Pileus 2 to 3 cm. broad; stem 4 to 8 cm. high, 4 to 5 mm. thick. Spores wood-brown.

Growing out of holes in the bark of rotten logs of *Quercus*. The plants are rooted in the rotten wood underneath the bark, so that the pileus often appears nearly sessile on the surface of the log. Often cespitose. Our plants are only occasionally umbonate. The stem is striate beneath a mealy coating. Taste farinaceous then bitter. Spores pale-brown, ellipsoidal, inequilateral, often with one side flat, 7 to 8 x 5 μ. After rains, spring to autumn.

PLUTEOLUS.

Pileus slightly fleshy, viscid, conical or campanulate then expanded, the margin at first straight, appressed to the stem. Lamellae rounded free. Stem subcartilaginous, separate from the hymenophore.

Pluteolus expansus Pk.

Pileus submembranaceous, becoming nearly plane or centrally depressed, viscid, plicate-striate on the margin, brownish-ochraceous, often tinged with yellow, gray, pink or greenish hues.

Lamellae narrow, close, rounded behind, slightly adnexed pale-cinnamon or ferruginous.

Stem rather long, slender, fragile, equal or slightly tapering upward, hollow, faintly striate, pruinose, yellow or greenish-yellow.

Spores 11 to 12 x 6 to 7.5 μ. Pileus 2.5 to 4 cm. broad; stem 7.5 to 10 cm. long, 2 to 4 mm. thick. Decaying wood and rich ground.

Var. *terrestris* Pk. Pileus grayish-yellow, tinged with green; stem greenish-yellow. Growing on rich or well manured soil.

In manured lawn. Wheaton. July. The pileus in the young plants is ovate-campanulate, viscid, dark-gray, becoming dry and changing to a pale greenish-lemon color. Lamellae pale-yellow, becoming ferruginous. Stem pale-yellow, its flesh concolorous, whitish below, becoming fibrillose toward the base as the plants mature. Spores pale-ferruginous, agreeing with the measurements given above.

GALERA.

Veil none or fibrillose; stem subcartilaginous, continuous with the hymenophore, tubular; pileus more or less membranous, conical or oval, then expanded, striate, the margin at first straight and adpressed to the stem; lamellae not decurrent. Plants small, mostly fragile; when young or moist the pileus has a watery or hygrophanous appearance. Spores ferruginous.

Galera tenera Schaeff.

Pileus thin, hygrophanous, somewhat membranous, conic-campanulate, pale ferruginous and slightly striate when moist, wholly even and whitish or creamy-yellow when dry, opaque.

Lamellae adnate, ascending, rather close, linear, cinnamon.

Stem straight, slender, fragile, hollow, somewhat shining, striate upwards, colored like the pileus.

Pileus 8 to 20 mm. broad; stem 4 to 7.5 cm. long, about 2 mm. thick. Spores ellipsoid, dark-ferruginous, 12 to 16 x 7.5 to 10 μ.

In lawns, grassy places in fields and woods, etc. In moist weather the plants deliquesce like species of *Coprinus*, the lamellae dissolving into a yellowish mass. The spores are variable, subglobose, ellipsoid, or somewhat oblong, 10 to 12 x 6 to 7 μ., or 12 to 14 x 8 to 12 μ.

CREPIDOTUS.

Stature various, irregular without a manifest veil; pileus eccentric, lateral or resupinate; spores yellowish-brown. Growing on wood, rarely on mosses; plants commonly with soft flesh.

Plant with a distinct stem. . . . . *C. tiliophilus.*
Plant sessile or nearly so. 1

1. Pileus glabrous or only slightly villous at the base. 2
1. Pileus not glabrous. 3

2. Lamellae very narrow, decurrent. . . . . *C. applanatus.*
2. Lamellae broader, rounded behind. . . . . *C. malachius.*
2. Lamellae decurrent to the base. . . . . *C. mollis.*

3. Pileus white with a white villosity. . . . . *C. herbarum.*
3. Pileus squamose with a tawny tomentum. . . . . *C. fulvotomentosus*
3. Pileus reddish-yellow with a yellowish tomentum. . . . . *C. dorsalis.*

Crepidotus tiliophilus Pk.

Pileus moderately thin, convex, minutely pulverulent, hygrophanous, watery-brown and striatulate on the margin when moist, dingy buff when dry.

Lamellae rather broad, subdistant, rounded behind, adnexed, colored like the pileus, becoming ferruginous-cinnamon.

Stem solid, often curved, pruinose, with a white pubescence at the base.

Pileus 12 to 24 mm. broad; stem 4 to 8 mm. long, 2 mm. thick; spores subelliptical, brownish-ferruginous, 6 to 7.5 x 4 to 5 μ.

On bark of living *Crataegus*, open woods, Glen Ellyn. August. Spores somewhat irregular in shape, 6 to 8 μ.; otherwise our specimens agree with the description. The plant from which Prof. Peck's description was written grew upon dead trunks and branches of *Tilia americana*.

Crepidotus applanatus Fr.

Pileus very thin, variable in shape, suborbicular, reniform, cuneiform or spathulate, plane or convex, sometimes slightly depressed behind, sessile or prolonged behind into a short compressed white-tomentose stem-like base, glabrous, hygrophanous, watery-white and striatulate on the margin when moist, white when dry.

Lamellae very narrow, linear, crowded, decurrent, white, becoming cinnamon.

Pileus 12 to 24 mm. long, 8 to 20 mm. broad; spores globose, 5 to 6 μ.

On stumps, woods, Glen Ellyn. July.

Crepidotus malachius B. & C.

Gregarious but scattered, horizontal; pileus smooth, white, cuneiform, subflabellate; flesh rather thick behind, very thin in front.

Lamellae at first white, then yellow-brown, ventricose, obtuse behind, thin, crowded.

Pileus 2.5 to 5 cm. broad; stem 2 to 4 mm. long, white, tomentose; spores 5.5 μ.

Decaying logs and stumps, Glen Ellyn and Riverside. July and August. Pilei up to 9 cm. broad, 6 cm. long. Spores globose, somewhat exceeding the dimensions given above, 6 to 7 μ.

Crepidotus mollis Schaeff.

Pileus pallid then becoming hoary, gelatinous-fleshy, soft, obovate or reniform, flaccid, nearly sessile, glabrous, often imbricated.

Lamellae decurrent to the base, close, linear, whitish then watery-cinnamon.

Spores ferruginous, elliptic, 9 x 5 to 6 μ.

On rotten stumps, Glen Ellyn. August. Pileus white-tomentose toward the base, watery-white when moist, margin often wavy, 2.5 to 6.5 cm. broad. Spores 8 x 5 μ. In moist weather the pileus often becomes revolute with age, giving the plant the appearance of a globe with lamellae projecting in all directions.

Crepidotus herbarum Pk.

Pileus thin, resupinate, suborbicular, clothed with a white, downy villosity, incurved on the margin when young, sometimes becoming reflexed, sessile, dimidiate and less downy.

Lamellae rather narrow, subdistant, radiating from a naked lateral or eccentric point, white then subferruginous.

Pileus 4 to 10 mm. broad; spores ellipsoid, 5 to 7.5 x 3.5 to 4 μ.

On dead grasses, twigs, etc. Glen Ellyn. August.

Crepidotus fulvotomentosus Pk.

Scattered or gregarious; pileus suborbicular, reniform or dimidiate, sessile or attached by a short, white-villose tubercle or rudimentary stem, hygrophanous, watery-brown and sometimes striatulate on the margin when moist, whitish, yellowish or pale-ochraceous when dry, adorned with small, tawny hairy or tomentose scales.

Lamellae broad, subventricose, moderately close, rounded behind, radiating from a lateral or eccentric white villose spot, whitish, becoming brown-ferruginous.

Pileus 1.5 to 5 cm. broad; spores ellipsoid, 7.5 to 10 x 5 to 6 μ.

On prostrate trunk of *Acer*, woods, Glen Ellyn. July. The lamellae of our plant are not broad, and are scarcely subventricose.

Crepidotus dorsalis Pk.

Pileus fleshy, sessile, dimidiate or somewhat reniform, flat or a little depressed behind, with a decurved slightly striate margin, somewhat fibrillose-tomentose at the point of attachment, reddish-yellow.

Lamellae close, ventricose, rounded behind, somewhat emarginate, converging to a villous, whitish, lateral space, pale ochraceous-brown.

Spores ferruginous, globose, 6 μ.

Decorticated decaying log in a moist ravine, woods, Winfield. August. Both the pileus and lamellae of the fresh plant have a pale reddish-orange tint. Pileus 15 to 30 mm. broad. Spores ochraceous-ferruginous, varying in size from 5 to 7 μ.

CORTINARIUS.

Hymenophore continuous with the stem; veil arachnoid, evanescent; lamellae persistent, arid, covered with the yellowish brown spores; trama fibrillose; spores globose or oblong. Growing on the ground in woods.

Pileus viscid, clay-color or fuscous-yellowish.....*C. caerulescens.*
Pileus viscid, violet-purple.....*C. iodes.*
Pileus dry.....*C. violaceus.*

Cortinarius caerulescens Fr.

Pileus clay-color or fuscous-yellowish, fleshy, convex then plane, obtuse, regular, even, smooth, viscid.

Lamellae somewhat adnate, slightly rounded, crowded, bright azure-blue, then purplish, finally dingy-cinnamon.

Stem solid, attenuated upwards from the marginate bulb, firm, at first fibrillose and violet-color, then naked, becoming pallid. Cortina fibrillose, fugacious.

Spores subellipsoid, 9 to 10 x 5 to 6 μ. Pileus 5 to 7 cm. broad; stem 5 cm. long, 12 mm. thick, the bulb 2 to 3 cm. thick.

On the ground in woods. Glencoe and Glen Ellyn. August to October.

Cortinarius iodes B. & C.

Pileus convex then plane, viscid, firm, violet-purple; flesh thick, white; veil fugacious.

Lamellae violet then cinnamon, adnate, ventricose, subemarginate, irregular, sometimes forked.

Stem solid, thickened below, violet or purplish-violet.

Pileus 4 to 6 cm. broad; stem 5 to 7.5 cm. long; spores ellipsoid, 10 x 6 μ.

Woods, Highland Park. September. Collected and identified by Dr. Watson.

Cortinarius violaceus Fr.

Pileus convex becoming nearly plane, dry, adorned with numerous persistent hairy scales or tufts, dark-violet.

Lamellae somewhat adnate, distant, connected by veins, darker than the pileus, at length brownish-cinnamon.

Stem solid, spongy-soft, fibrillose, bulbous, dark violaceous, internally violaceous-cinereous; cortina azure-blue. Inodorous, edible.

Pileus 7.5 to 15 cm. broad; stem 7.5 to 10 cm. long, 2.5 cm. thick; spores 12 to 13 x 7 to 8 μ.

Woods, near Chicago. Bates; Wyrick.

PAXILLUS.

Hymenophore continuous with the stem, decurrent; lamellae membranaceous, scissile, somewhat branched and here and there anastomosing behind, distinct from the hymenophore and readily separating from it. Fleshy, persistent; margin of the pileus at first involute, then continuously and gradually unfolded and dilated, indeterminate. Spores dingy-whitish or ferruginous.

Paxillus involutus Fr.

Pileus compact, convex or expanded, sometimes centrally depressed, glabrous, viscid when moist, varying in color from grayish or sordid buff to ferruginous or brownish-ochraceous, the margin at first strongly involute and covered with a dense grayish tomentose villosity; flesh grayish-white or pallid.

Lamellae close, decurrent, branched and anastomosing behind, whitish, then yellowish or subferruginous, becoming reddish-brown or fuscous where cut or bruised, the interspaces venose.

Stem equal or slightly thickened at the base, central or sometimes eccentric, glabrous, solid.

Pileus 2.5 to 7.5 cm. broad; stem 2.5 to 7.5 cm. long, 8 to 16 mm. thick. Spores rust-color, ellipsoid or oblong-ellipsoid, 8 to 16 x 6 μ. (K.)

On the ground in woods, Glencoe. September.

AGARICUS.

Stem annulate, distinct from the hymenophore; lamellae free; spores brown or blackish-brown. Growing on the ground.

Lamellae flesh-colored 1
Lamellae at first whitish 3
1. Pileus whitish or rufescent 2
1. Pileus yellow . . . . . A. *comptulus.*
2. Flesh thick, stem stout . . . . . A. *campestris.*
2. Flesh thin, stem slender . . . . . A. *silvaticus.*
3. Pileus smooth, shining-white . . . . . A. *silvicola.*
3. Pileus minutely brown-scaly . . . . . A. *placomyces.*

Agaricus comptulus Fr.

Pileus convex then plane, obtuse, smooth or with an appressed silkiness, yellow; flesh white, thin.

Lamellae free, crowded, broadest in front, flesh-colored then dark brown.

Stem yellowish, stuffed then hollow, slightly thickened at the base.

Pileus 5 cm. broad; stem 5 cm. long, 4 to 6 mm. thick.

Rich ground in a recently drained swamp. Palos Park. April. In a garden, Wheaton. May. Spores ellipsoid, 12 x 7 μ., fuscous-umber, marked with minute spots of a darker color.

Agaricus campestris L.

Pileus fleshy, varying white and rufescent, lens-shaped-convex then flattened, obtuse, dry, sometimes silky-even, sometimes squamulose; flesh thick and soft, becoming reddish or sometimes fuscous.

Lamellae free, approximate, ventricose, equally attenuated at both ends, crowded, often deliquescent, pallid flesh-color, at length umber-fuscous.

Stem stuffed, firm, short, bulbous when young, then somewhat equal, even or squamulose, white; ring medial, spreading or reflexed, torn, often deciduous and sometimes in the form of a cortina.

On the ground in pastures, spring and autumn. Throughout our district. Usually infrequent, but occasionally locally abundant in autumn after rains. Edible. The common mushroom of the shops. The annual product of the Chicago mushroom beds is said to be from sixty to seventy-five tons, of which fifty tons are consumed here, the remainder being shipped to nearby cities.

Agaricus silvaticus Schaeff.

Pileus somewhat ferruginous, scales rufescent or becoming fuscous, thinly fleshy, oval then campanulate and flattened, somewhat umbonate, the whole surface floccose, torn into squamules, the disk however often remaining continuous, and at length denuded of scales, margin often rimosely incised; flesh thin, fragile, white or rufescent.

Lamellae free, ventricose, equally attenuated at both ends, thin, arid, reddish then cinnamon-fuscous or umber-fuscous.

Stem slender, at first stuffed with a cylindrical white pith, then hollow, equal, dingy white, fibrillose below the ring and even above it, smooth; ring distant, simple, floccose beneath, sometimes wide but thin and membranous, sometimes narrow, incomplete and fugacious.

Pileus 7.5 cm. broad; stem 7.5 to 9 cm. long, about a cm. thick.

Woods, Lisle. August. Laxly gregarious. Lamellae at first rosy-pink, then reddish-brown, finally brownish-black. Spores broadly ellipsoidal, 5 x 3 μ.

Agaricus silvicola Vitt.

Pileus convex or subcampanulate, smooth, shining white.

Lamellae close, free, acute behind, whitish then slowly becoming fuscous.

Stem stuffed, elongated, bulbous, white; annulus simple.

Pileus 7.5 to 15 cm. broad; stem 10 to 15 cm. long, 8 to 15 mm. thick; spores 6 to 8 x 4 to 5 μ.

Woods, Glencoe. August. Infrequent.

Agaricus placomyces Pk.

Pileus thin, at first convex, becoming flat with age, whitish, brown in the center and elsewhere adorned with minute brown scales.

Lamellae close, white, then pinkish, finally blackish-brown.

Stem smooth, annulate, stuffed or hollow, bulbous, white or whitish, the bulb often stained with yellow.

Pileus 5 to 10 cm. broad; stem 7.5 to 12.5 cm. long, 6 to 12 mm. thick. It grows in the borders of hemlock woods or under hemlock trees from July to September. (Peck.)

Gregarious on a lawn, Wheaton, after a heavy rain. October, 1902. A beautiful plant. Pileus white or creamy-tinted, sometimes pinkish, everywhere beset with very small blackish-brown scales, these arranged in more or less concentric rows. The even brown disk is often obtusely umbonate. The cuticle of the pileus is separable and extends beyond the lamellae. The stem is sometimes fistulose even before the pileus has expanded. Annulus radiate-lineate and granulose above, loosely floccose below. Spores subelliptical, nucleate, 5 x 4 μ.

STROPHARIA.

Hymenophore continuous with the stem; veil annular; lamellae more or less adnate. Spores intense bright purple-brown, brown or slate-color.

Stem fistulose ..... *S. semiglobata.*
Stem stuffed with a separate pith ..... *S. stercoraria.*

Stropharia semiglobata Batsch.

Pileus light yellow, slightly fleshy, hemispherical, not expanded, very obtuse, even, viscous.

Lamellae adnate, very broad, plane, clouded with black.

Stem fistulose, tense and straight, equal, even, smooth, becoming yellow, paler at the apex, black-pruinate with the spores, otherwise smeared with the glutinous veil which is abrupt above, terminating in an incomplete (not membranaceous) viscous distant ring.

Gregarious in manured ground, Palos Park. May. The pileus and stem are viscid when moist, smooth and shining when dry. Spores somewhat apiculate, 12 to 16 x 7 to 9 μ.

Stropharia stercoraria Fr.

Pileus yellow, fleshy but thin at the margin, hemispherical then expanded, orbicular, pelliculose-viscous, smooth.

Lamellae adnate, very broad behind, somewhat crowded, olivaceous-fuscous or umber-fuscous.

Stem stuffed with a separate white fibrous pith, equal, viscous, yellowish; ring flocculose, not prominent.

Pileus 2.5 to 3.5 cm. broad; stem 5 to 7.5 cm. high; spores purple-brown, 17 x 13 μ.

On a manure pile, Wheaton, May, June, 1905. The stem is stramineous without and within. The pileus is of a livid-yellowish color becoming darker in drying. Spores ellipsoidal, 16 to 17 x 8 to 10 μ. Prof. Peck (Rep. N. Y. Mus. 23: 98), states that the stem is "stuffed with a whitish pith." In our specimens the pith is brownish, darker than the inner surface of the stem. The stem becomes fistulose at the base in large plants as they mature.

HYPHOLOMA.

Hymenophore continuous with the stem; veil woven into a web which adheres to the margin of the pileus, often wanting in old specimens; pileus more or less fleshy, the margin at first incurved; lamellae adnate or sinuate. Cespitose, growing chiefly on wood, sometimes on the ground. Spores fuscous-brown or fuscous-purple.

Plant not hygrophanous 1
Plant hygrophanous 2

1. Pileus smooth, tawny-brick-red . . . . . *H. sublateritium.*
1. Pileus innate-scaly, ochraceous or brownish . . . . . *H. lachrymabundum*
2. Lamellae at first violaceous . . . . . *H. Candolleanum.*
2. Lamellae at first whitish . . . . . *H. appendiculatum.*
2. Lamellae at first watery-cinnamon . . . . *H. subaquilum.*

Hypholoma sublateritium Schaeff.

Pileus tawny brick-red, but paler around the margin and covered over with a superficial, somewhat silky cloudiness, fleshy, convex-plane, obtuse, discoid, dry, even, becoming smooth; flesh compact, white, then becoming yellow.

Lamellae adnate, more or less crowded, narrow, at first dingy-yellowish and darker at the base, then fuliginous inclining to olivaceous.

Stem stuffed, stout and firm, commonly manifestly attenuated downwards, rarely equal, scaly-fibrillose, fibrils pallid, ferruginous downward; veil superior, at first white, at length becoming black.

Pileus 2.5 to 7.5 cm. long; stem 5 to 10 cm. long, 4 to 8 mm. thick; spores fuscous-purple, 7.5 x 4 μ.

Cespitose and gregarious, about old stumps. October. Some of our specimens can be referred with equal propriety to Prof. Peck's *H. perplexum.*

Hypholoma lachrymabundum Fr. (Plate XI, Fig. 1.)

Pileus whitish when young, then dingy-brown, becoming pale around the margin, fleshy, scaly-hairy, the innate scales darker; flesh whitish.

Lamellae adnate, crowded, whitish then fuscous-purple, the edge distilling drops in wet weather.

Stem hollow, fibrillose-squamose, somewhat thickened at the base, becoming fuscous-whitish. Veil separate, fibrillose, appendiculate.

Spores brownish-purple, 10 x 5 to 6 μ. Pileus 5 to 7.5 cm. broad; stem 5 cm. long, 6 to 8 mm. thick.

On the ground in woods. Glencoe, Warrenville, Bartlett. September and October. Lamellae adnate, sinuate, easily separating from the stem, light-yellow in the young plant; flesh of pileus and stem yellowish slowly turning to brownish when cut. Stem clothed like the pileus up to the obsolete ring, white-pruinose above it.

Hypholoma Candolleanum Fr.

Pileus date-brown becoming white, vertex somewhat ochraceous, somewhat fleshy, acorn-shaped then campanulate, soon convex and at length flattened, obtuse and unequal, smooth, even. Veil appendiculate, white, at length becoming fuscous.

Lamellae rounded-adnexed, then separating, crowded, violaceous, then fuscous-cinnamon, the edge at first whitish.

Stem fistulose at the apex, solid at the base, somewhat thickened, fibrillose, white, striate at the apex.

Pileus 5 to 10 cm. broad; stem 7.5 cm. long, 4 to 8 mm. thick. Densely cespitose, fragile, very hygrophanous.

Gregarious in short grass in lawns under trees, after rains. Spring to autumn. McIlvane notes that "the gills are cream-colored at first, then purplish, then very dark." *H. incertum* Peck, seems to be very near this.

Hypholoma appendiculatum Bull.

Pileus date-brown then tawny, becoming ochrey-pale when dry, fleshy-membranaceous, thin, ovate then expanded, at length flattened, obtuse, smooth, when dry slightly wrinkled, somewhat sprinkled with atoms; veil fringing the margin of the pileus, fugacious, white.

Lamellae somewhat adnate, crowded, arid, white then flesh-colored, at length fuscous.

Stem fistulose, equal, smooth, white, pruinate at the apex.

Pileus 5 to 10 cm. broad; stem 7.5 cm. long, 4 to 6 mm. thick.

Densely cespitose, very fragile and hygrophanous, much thinner and more fragile than *H. Candolleanum*. (Stevenson.)

About old stumps in woods.

Hypholoma subaquilum Banning.

Pileus brown, convex, smooth, hygrophanous, often shaded into ochre at the margin, veil delicate, silk-like, encircling and covering the marginal extremities of the lamellae but forming no ring on the stem; flesh white, turning umber when cut.

Lamellae adnexed or nearly free, close, forked, umber.

Stem cespitose, regular, hollow, silky, white.

In dense cespitose clusters in a woodland pasture. Warrenville. September and October. Lamellae watery-cinnamon, becoming umber; veil woven, concealing the lamellae in the young plant, soon disappearing; stem pruinate at the apex. Pileus

2 to 7 cm. broad; stem 3 to 5 cm. long, 4 to 6 mm. thick. Spores subellipsoid, 5 x 4 μ. It may be that this species is common and has been overlooked on account of its resemblance to *H. appendiculatum*.

PSILOCYBE.

No manifest veil; stem somewhat cartilaginous, rigid or tough, tubular, the tube hollow or stuffed, often rooting; pileus more or less fleshy, smooth, the margin at first incruved. Growing on the ground, gregarious or cespitose. Spores fuscous-purple.

Pileus 3.5 to 10 cm. broad; lamellae rounded behind ..... *F. spadicea.*

Pileus 1.5 to 5 cm. broad, lamellae rounded in front ..... *P. foenisecii.*

Psilocybe spadicea Fr.

Rigid; pileus fleshy, convex-plane, obtuse, even, moist, hygrophanous.

Lamellae rotundate-attached, dry, close, whitish then fleshy-brown.

Stem hollow, tough, pallid, even at the apex.

Pileus 3.5 to 7.5 cm. broad; stem 7.5 to 10 cm. long, 6 to 10 mm. thick.

Clay bank in a thicket, Glen Ellyn. August. A lax cluster of a dozen or more plants. Pileus 5 to 10 cm. broad, grayish-brown when moist, paler and somewhat radiate-striate in drying; lamellae ventricose, fleshy-cinnamon then rich umber, 8 to 10 mm. broad. Spores umber, oval, 10 x 7 μ. Our specimens agree with the characters given by Stevenson, I; 329. Prof. Peck, in N. Y. Mus. Rep't 23;99, has described a much smaller plant. McIlvane, in Am. Fungi, has copied Peck's description and has added a cut which may stand for almost anything from a *Coprinus* to a *Marasmius*. The stems of our plant are often curved and rooted at the base.

Psilocybe foenisecii Pers.

Pileus pale fuliginous-fuscous, or brown, becoming pale, fleshy chiefly at the disk, campanulate-convex, obtuse, dry, smooth.

Lamellae adnate, ventricose in front, somewhat distant, livid-fuscous at the sides, at length umber.

Stem fistulose, tense and straight, rigid-fragile, equal, naked, rufescent, at first paler and white-pulverulent, somewhat pubescent.

Spores 11 x 7 (M. J. B.); 10 x 5 to 6 μ. (Massee.) Pileus 2.5 to 5 cm. broad; stem 5 to 7.5 cm. long, 2 to 4 mm. thick.

Gregarious in short grass in lawns. Wheaton. July. Pileus hygrophanous, watery-brown in wet weather, banded with various tints of brown when parting with its moisture, 1.5 to 3 cm. broad; stem often crooked, and with a few mycelial fibers at the base. When growing in manured soil it is much more robust, attaining

a height of 10 cm. with a pileus up to 5 cm. in breadth. Spores umber-purple, ellipsoid, bluntly pointed at one or both ends, 12 to 14 x 8 to 9 μ.

PSATHYRA.

Veil none, or only universal and floccose-fibrillose; pileus conical or campanulate, membranaceous, the margin at first straight and adpressed to the stem. Stem somewhat cartilaginous, fistulose, polished, fragile. Plants slender, hygrophanous, growing on the ground or on trunks. Spores fuscous-purple.

Psathyra semivestita B. and Br.

Pileus dark-brown becoming pale, ovate, obtuse, sprinkled with little snow-white fibrils more than half way up.

Lamellae adnate, ascending, broad behind, umber-brown.

Stem fistulose, nearly straight, fibrillose-silky, snow-white with a pale under tinge of brown, the walls within white with down.

Pileus about 12 mm. broad; stem 5 cm. long, 3 mm. thick. Spores elongated-pruniform, 14 μ.

In short grass in open woods. Winfield, June, 1905. Pileus hygrophanous, often more or less umbonate in young plants, the umbo paler as the plants part with their moisture and disappearing with age. The minute fibrils or atoms with which the outer part of the young pileus is clothed glisten when viewed under a lens. The stem is rigid-fragile, more or less striate beneath its silky covering. Pileus usually 12 to 15 mm. broad, exceptionally 25 mm. The spores are dark brown, 13 to 18 x 8 to 9 μ. Young umbonate specimens are perhaps *P. umbonata* Peck.

COPRINUS.

Hymenophore separate from the stem; lamellae membranous, at first pressed together and cohering, scissile, at length melting away into a black fluid; trama obsolete. Spores oval, even, black.

With a ring. 1
Without a ring 4
1. Not hygrophanous. 2
1. Hygrophanous 3
2. Pileus whitish or grayish, breaking up into large scales . . . . . *C. comatus.*
2. Pileus lurid-fuliginous, sulcate, disk squamulose . . . . . *C. atramentarius.*
3. Pileus thin, fragile, with superficial patches of tomentum . . . . . *C. variegatus.*
4. Pileus adorned with micaceous scales. . . . . *C. micaceus.*
4. Pileus adorned with floccose-squamose white scales. . . . . *C. fimentarius.*
4. Pileus very delicate, glabrous . . . . . *C. plicatilis.*
4. Pileus very delicate, slightly scurfy . . . . . *C. ephemerus.*

Coprinus comatus Fr.

Pileus cylindrical then campanulate, whitish or tinted ochraceous, at first even, then becoming broken up into scattered, more or less reflexed large torn scales, soon becoming campanulate and pinkish-gray at the margin.

Lamellae slightly adnexed, pink then blackish.

Stem stout; volva usually evanescent, its free margin forming a ring which is carried up for some distance by the elongating stem.

Pileus 9 to 15 cm. high, 2.5 to 5 cm. broad; stem 12 to 20 cm. long.

On lawns, in alleys and waste places, more frequently in autumn. Edible and of excellent flavor.

Coprinus atramentarius Fr.

Pileus lurid-fuliginous, becoming hoary with adpressed silky lustre, slightly fleshy, ovate then campanulate, wholly longitudinally and deeply sulcate and ribbed, repand-unequal at the margin, brownish-squamulose on the disk.

Lamellae free, broad, white, then purplish-black.

Stem firm, hollow, longitudinally fibrillose, white.

Pileus 2.5 to 7.5 cm. broad; stem 4 to 8 cm. or more long, 4 to 8 mm. thick; spores 9 to 10 x 6 μ.

On lawns and about stumps; common from June until frost. Often in large cespitose clumps. Edible, but soft and watery when cooked.

Coprinus variegatus Pk.

Pileus fleshy, thin, fragile, oblong-ovate then campanulate, obtuse, hygrophanous, pale watery-brown when moist, whitish or cream-color when dry, variegated by scales or patches of a superficial ochraceous tomentum, the margin finely striate.

Lamellae lanceolate, crowded, ascending, free, white then rusty-brown finally black.

Stem equal, brittle, hollow, white, at first peronate-annulate, then floccose-pruinose, with white, branching, net-like threads at the base.

Spores subelliptical, 8 μ. Densely cespitose; pileus 2.5 to 3.5 cm. broad; stem 7.5 to 12.5 cm. high, 4 to 8 mm. thick.

On and about dead stumps and rotten wood. Wheaton, Glen Ellyn, Thatchers and Riverside. May to July.

In our plant the pileus is at first ovate, then campanulate, at length rimose with the ends of the segments recurved; membranaceous, at first covered with the thick straw-colored universal veil which afterwards breaks away into large, irregular scales or patches, disclosing the dingy-white or bluish-white, smooth surface of the pileus. Lamellae 6 mm. broad, free, ventricose, at first bluish-white, at length umber-blackish, somewhat crowded. Stem attenuated from the enlarged, scarcely bulbous, slenderly-rooting base to the apex, hollow, the opening truncate at the apex.

Coprinus fimentarius Fr.

Pileus membranaceous, thin, at first cylindrical, at length revolute and torn at the margin, when young covered with floccose-squamose white scales which separate from the vertex toward the circumference, at length naked, longitudinally cracked but not opening into furrows, the vertex, which remains entire, livid.

Lamellae free, reaching the stem, at first ventricose then linear, flexuous, black.

Stem hollow, fragile, thickened and solid at the base, attenuated upwards, shining white and villous with squamules of the same color.

On dung in a woodland pasture, River Forest. June.

Coprinus micaceus Fr.

Pileus oval then campanulate, margin plicate and irregular, striate, tawny-ochraceous, at first covered with glistening micaceous particles, soon naked and becoming sulcate.

Lamellae adnexed.

Stem white, silky, hollow.

Pileus 3 to 6 cm. broad; stem 5 to 8 cm. long; spores 7 to 8 x 4 to 5 μ.

In sodded ground along a railroad track, Glen Ellyn. On stumps of street trees, Wheaton. May and October. Lake View at the base of trees, in great clumps. Pepoon. Found growing on the mycelium of *Ozonium auricomum* Lk., on rotten log at River Forest. October, 1903.

Coprinus plicatilis Fr.

Pileus very delicate, cylindric-ovate then campanulate, soon plane, coarsely grooved, glabrous, pale-brown, then grayish, disk broad, even, at length depressed, darker.

Lamellae free, attached to a collar, distant from the stem.

Stem white, smooth, hollow.

Pileus 1 to 2 cm. broad; stem 5 to 8 cm. long; spores 11 to 13 x 8 to 9 μ.

Mulching about shrubs, garden, Wheaton. June. Ephemeral, disappearing before the middle of the forenoon. The pileus is of a dull, lead-gray color. The spores of our specimens vary much in size and shape. They are black, elliptic-oblong, somewhat irregular, frequently mucronate at one end, 9 to 15 x 6 to 8 μ.

In manure about a greenhouse, Chicago. May. Pepoon.

Coprinus ephemerus Fr.

Pileus very delicate, ovate then campanulate, sulcate, slightly scurfy at first, disk elevated, even, rufescent.

Lamellae slightly adnexed.

Stem glabrous, pellucid, whitish, hollow.

Pileus 1 to 2 cm. broad; stem 3 to 6 cm. long; spores 16 to 17 x 9 to 10 μ.

In mulching under shrubs in a garden, Wheaton. June. Very ephemeral, withering away if carried in the hand a few minutes. Pileus in our specimens 4 to 8 mm. broad, lamellae at first whitish, soon fuscous-black; spores large, ellipsoidal, 12 x 6 μ.

PANAEOLUS.

Veil woven, often wanting; stem polished, slightly firm; pileus slightly fleshy, not striate, the margin exceeding the lamellae; lamellae ascending into the top of the cone, variegated, deliquescent; stem fleshy; spores black. Usually growing on dung.

Stem solid	*P. solidipes.*
Stem hollow	1
1. Pileus moist	2
1. Pileus dry	3
2. Reticulated with raised ribs, grayish	*P. retirugis.*
2. Not reticulated, bay-red	*P. digressus.*
3. Pileus smooth, not zoned	*P. papilionaceus*
3. Pileus zoned near the margin	*P. fimicola.*

Panaeolus solidipes Pk.

Pileus firm, hemispherical becoming convex, smooth, whitish, the cuticle at length breaking up into dingy-yellowish rather large, angular scales.

Lamellae broad, slightly attached, whitish becoming black.

Stem firm, smooth, white, solid, slightly striate at the top. Spores very black with a bluish tint. Plant 12 to 20 cm. high; pileus 5 to 7.5 cm. broad; stem 4 to 8 mm. in diameter. The upper part of the stipe is sometimes beaded with moisture.

On a pile of horse manure, Wheaton, May, 1905. The scales are only exceptionally present upon the pilei of our plants. The surface, in old specimens is often cracked into irregular areas. The portion of the stem which had been covered by the pileus before expansion is thickly beaded with drops of moisture. The upper third of the stem is distinctly striate, and sometimes the striae can be traced all the way to the base. I find no record of the size of the spores. They are ellipsoidal, and measure about 16 x 10 μ.

This and *P. epimyces* (the latter doubtfully referred by Prof. Peck to this genus), are the only species of *Panaeolus* with a solid stem yet reported from the United States.

Panaeolus retirugis Batsch.

Pileus at first subglobose, at length hemispherical and broadly subumbonate, reticulately veined, grayish-white, the margin subfringed with the appendiculate veil.

Lamellae broad, adnate, becoming grayish-black.

Stem long, firm, hollow, pruinose, cartilaginous, smoky-gray, light reddish-brown or paler.

Pileus 12 to 24 mm. broad; stem 7.5 to 12.5 cm. high, 3 to 4 mm. thick.

On dung heaps in a wooded pasture, River Forest. June. When young, tan-flesh-color, globose, afterwards parabolic-hemispherical, strongly umbonate and cinereous, the umbo darker. Spores large, fusiform, 15 to 18 x 9 to 12 μ.

Panaeolus digressus Pk.

Pileus hemispherical or convex, glabrous, bay-red.

Lamellae very broad, plane, distant, adnate, purplish-black with a white edge.

Stem short, floccose-fibrillose towards the base, striate at the apex, hollow, a little paler than the pileus.

Spores broadly ellipsoid, 12 to 15 x 10 μ. Pileus 8 to 12 mm. broad; stem about 2.5 cm. long, 2 mm. thick.

Growing in manure near a barn. Wheaton. September, 1904.

Our plants agree with the description except that the stem is 2.5 to 4 cm. long, and the spores 12 x 7 to 8 μ.

The pileus, which is bay-red when moist, becomes paler as the plants part with their moisture. It is smooth, not polished, not striate and the edge is here and there dotted with flecks of the white veil. The lamellae extend to the margin of the pileus, a peculiarity that has been noted in only one other American species. The stem is rigid, somewhat tough, not polished. Reported heretofore only from California.

Panaeolus papilionaceus Bull.

Pileus subhemispherical, sometimes subumbonate, smooth, or with the cuticle breaking up into scales, whitish-gray, often tinged with yellow.

Lamellae very broad, attached, becoming black.

Stem slender, firm, hollow, pruinose above, whitish, sometimes tinged with red or yellow, slightly striate at the top.

Pileus 12 mm. to 3.5 cm. broad; stem 7.5 to 12.5 cm. high.

On dung and rich soil. Chicago. June, 1889. Wyrick. The species is said to be poisonous.

Panaeolus fimicola Fr.

Pileus fuliginous-gray when moist, becoming clay-hoary when dry, slightly fleshy, campanulate then convex, obtuse, even, smooth, opaque, marked round the margin with a narrow fuscous zone, and inside this with a white one; flesh thin, grayish.

Lamellae adnate, slightly rounded, somewhat ventricose, broad (almost semi-ovate), variegated gray and fuliginous.

Stem fistulose, soft, fragile, equal, becoming dingy-pale, obsoletely slightly silky-striate, white-pruinose at the apex.

Pileus 2 to 4 cm. broad; stem 5 to 10 cm. high.

On horse dung in a barnyard. Wheaton. June.

ANELLARIA.

Pileus somewhat fleshy, not striate, projecting beyond the lamellae at the margin; lamellae variegated from the groups of dark spores on the surface; annulus present. Spores black.

Anellaria separata L.

Pileus clay-whitish, slightly fleshy, ovate-campanulate, obtuse, even, smooth, viscous.

Lamellae adnate but almost separating, ascending, cinereous-black.

Stem fistulose, tense, straight, rigid, slightly attenuated from the thickened base, whitish, even, striate under a lens, smooth, naked. Ring distant, entire, persistent, white.

Spores ellipsoid, 16 to 22 x 10 to 12 μ.; pileus 2.5 to 3 cm. broad; stem 10 to 15 cm. high.

On horse dung in woodland pastures. May to September. In our plant the ring often disappears with age.

PSATHYRELLA.

Veil not woven, scarcely conspicuous; pileus membranous, striate, margin not exceeding the lamellae; lamellae equally black-fuliginous, not variegated. Stem with a cartilaginous rind; the straight margin of the pileus at first appressed to the stem. Spores black.

Pileus slightly striate, sprinkled with shining atoms ..... *P. atomata.*
Pileus sulcate, not atomate ..... *P. disseminata.*

Psathyrella atomata Fr.

Pileus livid, when dry becoming pale tan or pale flesh-color, hygrophanous, membranous, campanulate, obtuse, slightly striate when moist, sprinkled with shining atoms.

Lamellae adnate, broad, ventricose, slightly distant, distinct, whitish becoming cinereous-blackish with the spores.

Stem lax, fragile, white, the apex white-furfuraceous.

Pileus 12 mm. to 2.5 cm. broad; stem 2.5 to 5 cm. long, 2 mm. thick.

Ground in woods. Glen Ellyn. September. Pileus livid when moist, becoming pale-whitish with the disk flesh-color when dry; lamellae livid-fuliginous, edges whitish; stems curved at the base, arising from a plexus of white, cottony threads which usually bind together a small mass of vegetable mold. Pileus 12 to 25 mm. broad; stem 5 or 6 cm. long, about 2 mm. thick. Spores ellipsoid, 11 to 12 x 7 to 8 μ.

Psathyrella disseminata Pers.

Pileus whitish or yellowish changing to cinereous, commonly livid, the disk becoming yellow, membranaceous, oval then campanulate, at first scurfy then smooth, sulcate.

Lamellae adnate, ascending, broad, white-cinereous then blackish.

Stem fragile, fistulose, lax, somewhat flexuous, slightly scurfy then smooth, white.

In dense cespitose clusters on rotten stumps. Glen Ellyn. June to October. Pileus 4 to 12 mm. broad; stem 12 to 25 mm. long, scarcely a millimeter thick, subpellucid when moist; spores ellipsoid, 7 to 8 x 4 to 5 μ. Closely resembling in appearance a small *Coprinus*, but the lamellae are not deliquescent.

The species was found in large numbers upon the lawn of Prof. Mullenix, Wheaton, in autumn, 1901, probably deriving its nourishment from decaying buried roots of trees.

GOMPHIDIUS.

Hymenophore decurrent on the stem; lamellae composed of a mucilaginous membrane, scissile, continuous at the acute edge, pruinate with the blackish fusiform spores; veil viscous-floccose. Growing on the ground, fleshy, putrescent; pileus at length turbinate; lamellae decurrent, distant, soft.

Gomphidius viscidus Fr.

Pileus fuscous-rufous, compact, at first campanulate, then expanded, umbonate, slightly viscous, shining when dry; flesh yellowish.

Lamellae deeply decurrent, distant, the shorter ones adnexed to the longer, not truly branched, at first somewhat olive, at length fuscous-purple, clouded with the spores.

Stem solid, equal or attenuated at the base which is rhubarb-colored internally, scaly-fibrillose, not very viscous, yellowish; cortina very evidently floccose, not glutinous, woven in the form of a ring, but readily falling off.

Pileus 5 to 7.5 cm. broad; stem 7.5 to 10 cm. long, 12 mm. thick; spores 16 x 6 μ.

In pine woods, Millers. October, 1902. Bertolet.

BOLETUS.

Stratum of tubes readily separating from the pileus; tubes rather long, mouths circular or angular; spores brownish or whitish.

1. Tubes white, becoming flesh-colored ..... *B. felleus.*
1. Tubes white, yellow or brown, not becoming flesh-colored 2
2. Tubes adnate, stuffed when young 3
2. Tubes adnate, not stuffed 6
2. Tubes free, or nearly so 8
3. Tubes at first whitish 4
4. Tubes becoming ochraceous; ferruginous where wounded ..... *B. affinis.*
4. Tubes not changing color where wounded 5

5. Tubes becoming ochraceous or brownish . . *B. separans.*
5. Tubes becoming yellowish or greenish . . . . *B. edulis.*
6. Pileus viscid or glutinous 7
6. Pileus velvety or floccose-scaly . . . . . *B. chrysenteron.*
6. Pileus glabrous, vermilion then olivaceous . . . . . *B. miniato-olivaceus*
7. Pileus dingy-yellowish, or ferruginous-brown, annulate . . . . . *B. subluteus.*
7. Pileus fuscous-ferruginous then yellowish, exannulate . . . . . *B. granulatus.*
7. Pileus golden yellow . . . . . *B. hirtellus.*
8. Pileus pale red, stem pallid, yellow at base . . . . . *B. chromapes.*
8. Pileus and stem cinnamon or reddish-brown . . . . . *B. castaneus.*

Boletus felleus Bull.

Pileus convex or nearly plane, firm, becoming soft, glabrous, even, variable in color, pale-yellowish, grayish-brown, yellowish-brown or chestnut; flesh white, often changing to flesh-color where wounded; taste bitter.

Tubes adnate, long, convex, depressed around the stem, their mouths angular, white, becoming tinged with flesh-color.

Stem variable, equal or tapering upward, short or long, sometimes bulbous or enlarged at the base, subglabrous, generally reticulated above, colored like or a little paler than the pileus.

Spores oblong-fusiform, flesh-colored, 12.5 to 17.5 x 4 to 5 μ.; pileus 12 to 15 cm. or more broad; stem 5 to 15 cm. long, 1 to 3 cm. thick.

Woods and shaded banks, Glen Ellyn. August.

Boletus affinis Pk.

Pileus convex or nearly plane, dry, glabrous or minutely tomentose, even or slightly rugose, brown or chestnut-color, fading to tawny or ochraceous with age, sometimes rimose-areolate or spotted; flesh white, occasonally slowly changing to yellowish where wounded.

Tubes plane or convex, adnate or slightly depressed around the stem, at first white and stuffed, then glaucous-yellow or subochraceous, becoming ferruginous-ochraceous where wounded.

Stem subequal, sometimes narrowed either above or below, even or rarely slightly reticulated at the top, glabrous, colored like or paler than the pileus, sometimes tinged with red.

Spores bright ferruginous-ochraceous, 9 to 12 x 4 to 5 μ.; pileus 5 to 10 cm. broad; stem 4 to 9 cm. long, 8 to 16 mm. thick.

Sandy woods. Millers. August.

Boletus separans Pk.

Pileus convex, thick, glabrous, subshining, often pitted, lacunose or corrugated, brownish-red or dull-lilac, sometimes fading to yellowish on the margin; flesh white, unchangeable.

Tubes at first nearly plane, adnate, white and stuffed, then convex, depressed around the stem, ochraceous-yellow or brownish-yellow and sometimes separating from the stem by the expansion of the pileus.

Stem equal or slightly tapering upward, reticulated either wholly or in the upper part only, colored like the pileus or a little paler, sometimes slightly furfuraceous.

Spores subfusiform, brownish-ochraceous, 12.5 to 15 x 5 to 6 μ.; pileus 7.5 to 15 cm. broad; stem 5 to 10 cm. long, $\frac{1}{2}$ to 1 cm. thick.

Grassy banks in woods, Pine, Indiana. September. Sufficiently distinguished from *B. Scaber* by the reticulated stem. Pepoon.

Boletus edulis Bull.

Pileus convex or nearly plane, glabrous, moist, at first compact, then soft, variable in color, grayish-red, brownish-red or tawny-brown, often paler on the margin; flesh white or yellowish, reddish beneath the cuticle.

Tubes convex, nearly free, long, minute, round, white then yellow and greenish.

Stem short or long, straight or flexuous, subequal or bulbous, stout, more or less reticulate, especially above, whitish, pallid or brownish.

Spores 12 to 15 x 4 to 5 μ.; pileus 10 to 15 cm. broad; stem 5 to 15 cm. long, 1 to 3 cm. thick.

Dry, open woods, Glencoe. August. Pileus occasionally 25 cm. broad.

Boletus chrysenteron Fr.

Pileus convex or plane, soft, floccose-squamose, often rimose-areolate, brown or brick-red; flesh yellow, red beneath the cuticle, often slightly changing to blue where wounded.

Tubes subadnate, greenish-yellow, changing to blue where wounded, their mouths rather large, angular, unequal.

Stem subequal, rigid, fibrous-striate, red or pale yellow.

Spores fusiform, pale brown, 11 to 12 x 4 to 5 μ.; pileus 2.5 to 7.5 cm. broad; stem 2.5 to 7.5 cm. long, 6 to 12 mm. thick.

Grassy places upon a wooded hillside, Glen Ellyn. August. The plants are quickly destroyed by insect larvae.

Boletus miniato-olivaceus Frost.

Pileus at first convex and firm, then nearly plane, soft and spongy, glabrous, vermilion becoming olivaceous; flesh yellow changing to blue where wounded.

Tubes bright lemon-yellow, adnate or subcurrent.

Stem glabrous, enlarged at the top, pale yellow, brighter within, sometimes lurid at the base.

Var. *sensibilis* Pk. Pileus at first pruinose, red, becoming glabrous and ochraceous with age; tubes bright yellow tinged

with green, becoming sordid-yellow; stem lemon-yellow with red or rhubarb stains at the base, contracted at the top when young; subcespitose.

Spores 10 to 12.5 x 4 to 5 μ.; pileus 5 to 15 cm. broad; stem 7.5 to 10 cm. long, 6 to 12 mm. thick.

Grassy places in woods, Lisle and Glen Ellyn. August. Frequent. Our plants all belong to the variety *sensibilis*. Pileus 5 to 10 cm. broad, at first of a rich vermilion color and with a texture like velvet, soon becoming sordid-ochraceous.

Boletus subluteus Pk.

Pileus convex or nearly plane, viscid or glutinous when moist, often obscurely virgate-spotted, dingy-yellowish, inclining to ferruginous-brown; flesh whitish varying to dull-yellowish.

Tubes plane or convex, adnate, small, subrotund, yellow, becoming ochraceous.

Stem equal, slender, pallid or yellowish, dotted above and below the annulus with reddish or brownish glandules; annulus submembranous, glutinous, at first concealing the tubes, then generally collapsing and forming a whitish or brownish band around the stem.

Spores subfusiform, ochraceous-ferruginous, 7.5 to 10 x 4 to 5 μ. Pileus 3.5 to 7.5 cm. broad; stem 3.5 to 6.5 cm. long, 4 to 8 cm. thick.

Sandy swales under pine trees, Clarke, Indiana. September. Pepoon.

Boletus granulatus L.

Pileus fuscous-ferruginous with the gluten with which it is smeared, yellowish when the gluten separates, convex-expanded; flesh light yellowish.

Tubes adnate, short, their mouths simple, granulated.

Stem pale-yellowish, dotted with granules upwards.

Spores 7.5 to 10 x 2 to 3 μ.; pileus 5 to 7.5 cm. broad; stem 5 cm. or more long, 6 to 12 mm. thick.

In pine woods. Millers, Indiana. October, 1903. Harper.

Boletus hirtellus Pk.

Pileus broadly convex, soft, viscose, golden-yellow, adorned with small tufts of hair or fibrils; flesh pale-yellow.

Tubes adnate, medium size, angular, becoming dingy-ochraceous.

Stem subcespitose, equal, stout, glandular-dotted, yellow.

Spores pale ochraceous-brown, 9 to 10 x 4 μ.; pileus 5 to 10 cm. broad; stem 5 to 7.5 cm. long, 8 to 16 mm. thick.

Sandy swales in shaded places, Pine, Indiana. Pepoon, who remarks that it is "too near *B. americanus*."

Boletus chromapes Frost.

Pileus convex or nearly plane, slightly and sometimes fasciculately tomentose, pale red; flesh white, unchangeable.

Tubes subadnate, more or less depressed around the stem, white or whitish, becoming brown.

Stem equal or slightly tapering upward, scabrous-punctate, whitish or pallid, chrome-yellow at the base without and within, sometimes reddish above.

Spores oblong, 11 to 14 x 4 to 5 μ.; pileus 5 to 10 cm. broad; stem 5 to 10 cm. long, 8 to 12 mm. thick.

Mossy base of *Pinus divaricata*, Clarke, Indiana. August.

Boletus castaneus Bull.

Pileus convex, nearly plane or depressed, firm, even, dry, minutely velvety-tomentose, cinnamon or reddish-brown; flesh white, unchangeable.

Tubes free, short, small, white becoming yellow.

Stem equal or tapering upward, even, stuffed or hollow, clothed and colored like the pileus.

Spores 10 to 12 x 6 to 7.5 μ.; pileus 4 to 7.5 cm. broad; stem 2.5 to 6 cm. long, 6 to 12 mm. thick.

Woods, Millers. August. The pileus in young plants is pale cervine, becoming darker with age. Spores cream-color, 9 to 11 x 5 to 6 μ.

STROBILOMYCES.

Stratum of tubes not easily separable from the pileus; tubes as in Boletus. Outer surface of the pileus tough, and torn into scales.

Strobilomyces strobilaceus Berk.

Pileus hemispherical or convex, dry, covered with thick floccose projecting blackish or blackish-brown scales, the margin somewhat appendiculate with scales and fragments of the veil; flesh whitish changing to reddish and then to blackish where wounded.

Tubes adnate, whitish, becoming brown or blackish with age, their mouths large, angular, changing color like the flesh.

Stem equal or tapering upwards, sulcate at the top, floccose-tomentose, colored like the pileus.

Spores subglobose, rough, blackish-brown, 10 to 12.5 μ.; pileus 5 to 10 cm. broad; stem 7.5 to 12.5 cm. long, 8 to 20 mm. thick.

Grassy places in woods. July and August. Frequent. Pileus occasionally up to 15 cm. in diameter. The ground-color of the pileus is white or smoky-white when the plant grows in shaded places out of the reach of sunlight. The stem is often curved or crooked.

FISTULINA.

Stem strictly lateral; pores in the form of tubes whose mouths are separated from each other.

Fistulina pallida B. & Rav.

Pileus reniform, pallid reddish; stem lateral; tubes decurrent. Pileus 2½ to 5 cm. broad, about 2½ cm. long, pulverulent, yellowish-brown when dry; margin inflexed; stem 2 cm. long, 8 mm. thick, striate when dry.

A single specimen found on the ground in a ravine north of Glencoe. September, 1903. According to Prof. Atkinson (Studies of Am. Fung. p. 186), *F. firma* Pk. is apparently the same species.

BOLETINUS.

Stratum of tubes not easily separable from the pileus; pores in more or less radiating rows, usually shorter than in Boletus. Spores brown or yellowish.

Boletinus porosus Pk.

Pileus fleshy-viscid when moist, shining, reddish-brown; flesh 6 to 18 mm. thick; margin thin and even; hymenium porous, yellow, formed by radiating lamellae 1 to 2 mm. distant, branching and connected by numerous irregular veins of less prominence and forming large angular pores.

Stem lateral, tough, diffused into the pileus, reticulated at the top by the decurrent walls of the tubes, colored like the pileus.

Spores semi-ovate; pileus 5 to 12.5 cm. broad; stem ½ to 3 cm. long, 8 to 12 mm. thick.

Var. *opacus* Pk. Pileus dry, glabrous or subtomentose, not shining, brown or tawny-brown; spores brownish-ochraceous, 9 to 11 x 6 to 8 μ.

On the ground in damp woods. Frequent. Has been found in woods at Glen Ellyn each year since 1896. Our plants belong to the variety *opacus*. Edible.

FOMES.

Pileus woody-indurate from the first, with a floccose-interwoven context, covered by a rigid crust; azonate, but at length concentrically sulcate. Perennial; lignatile.

1. Plant usually with a lateral stem. . . . . *F. lucidus.*
1. Plant sessile 2
   2. Pileus, context and pores flesh-color . . . . *F. carneus.*
   2. Pileus whitish then cinereous. 3
   2. Pileus whitish, tawny or fulvous, becoming brownish or blackish. 4
3. Context corky-woody, pallid, pores reddish . . *F. fraxineus.*
3. Context corky-woody, and with the pores pale-ochraceous . . . . . *F. connatus.*
3. Context soft, umbrine, pores white then fuscous. . . . . *F. applanatus.*
   4. Context hard 5
   4. Context soft 7
5. Surface of pileus even, pores cinnamon. . . . . *F. fulvus.*

5. Surface of pileus sulcate..... 6
   6. Context stratose, ferruginous, pores cinnamon..... *F. igniarius.*
   6. Context stratose, and with the pores rhubarb-yellow..... *F. Everhartii.*
   6. Context obscurely stratose, pale-tawny, pores whitish..... *F. fraxinophilus.*
   6. Context obscurely stratose, fulvous or cinnamon, pores white..... *F. scutellatus.*
7. Context and pores fulvous..... *F. Ribis.*

Fomes lucidus Leys.

Pileus corky then woody, flabelliform, sulcate, rugose, laccate, shining, at first yellow then reddish-chestnut.

Stipe lateral, equal, concolorous; pores determinate, long, minute, white then cinnamon.

At the base of stumps, usually of *Quercus*, in low woods. Pileus 3 to 8 cm. long, stem 2 to 5 cm. long, occasionally much shorter or wholly obsolete with age. In young plants the pileus is subzonate, the margin pale ochraceous, the disk ferruginous-tinted and the laccate crust not manifest. The laccate coating of the pileus and stem is at first brownish-ochraceous, becoming much darker as the plant matures.

For a detailed study of this and allied species, with excellent figures, see Atkinson, Bot. Gaz. 46: 321; our species being described under the name *Ganoderma pseudoboletum* (Jacq.) Murrill.

Fomes carneus Nees.

Pileus effused-reflexed, woody, hard, thin, rugose, smooth, azonate, flesh-color without and within.

Pores minute, round, decurrent at the base.

Pileus longitudinally effused, imbricated, rarely solitary, 8 to 10 cm. long, 2.5 to 4 cm. wide, 5 to 7 mm. thick.

Near the ground on decayed portion of a standing trunk, woods, Glen Ellyn. September. Determined by Prof. Harper. Often cited as a synonym of *F. roseus* Alb. & Schw. Professor Peck considers the two species distinct, the latter being a thicker ungulated plant with a crust. See Lloyd, Myc. Notes, No. 29.

Fomes fraxineus Bull.

Pileus corky-woody, glabrous, somewhat applanate, whitish, then reddish and brown, at first even, then concentrically sulcate-plicate, pallid within.

Pores minute, short, reddish at first, as well as the margin covered with a white sebaceous down. Odor strong and penetrating.

On stumps. River Forest, Harper; near the ground on a standing trunk, Glen Ellyn. Moffatt. Unfortunately both collectors failed to record the species of tree on which the specimens were found. It is said to grow on *Fraxinus americana.*

Fomes connatus Fr.

Pileus corky-woody, effused-reflexed, scalari-imbricate, concrescent, villous, white or cinereous; context and pores stratose.

Pilei 5 to 12 cm. broad, often reflexed 5 to 7 cm.

Near the base of trunks of *Acer saccharum* L., woods, Glen Ellyn, September, 1902. Pileus ashy-white, velvety becoming glabrous, not villous; pore surface uneven, becoming pale-ochraceous in drying, the tubes 2 to 3 mm. in length; in the older, interior strata ochraceous. Heavy when fresh but light and corky when dry. Perennial, the specimens of several years' growth imbricated and connate, with the upper surface overgrown with mosses and algae.

Fomes populinus (Schum.) Cke., is said to resemble this in habit, but differs in having the pores not stratose.

Fomes applanatus Pers. (Plate XI, Fig. 2.)

Dimidiate; pileus large, corky-woody, convex-plane, tuberculate-nodulose, glabrous, at length concentrically sulcate, with a shining crust, at first milky-white then cinereous with faint obscure lines; margin obtuse, sterile; context floccose-corky, chestnut-brown.

Pores very small, at first white then becoming fuscous, the mouths white within.

Pileus 3 dm. or more across, 13 to 15 cm. long, often a decimeter thick behind.

On old logs and stumps of various trees. Our most common *Fomes*. Context rich umber, pores ferruginous-fuscous. The pore surface of the growing plant is pure white, often presenting a smooth layer covering the entire under surface of the fungus. Etchings made upon the fresh hymenium are permanent, the lines traced by the needle quickly turning to sepia-brown. Prof. Geo. F. Atkinson, in Ann. Myc. 6: 179, says that the American plant is clearly the same species as the European *F. applanatus*, therefore *Polyporus megaloma* Lev. and *P. leucophaeus* Mont. are synonyms; that the earliest name yet known is *Boletus lipsiensis* Batsch. Professor Atkinson refers the species to the genus *Ganoderma*.

Fomes fulvus Scop.

Pileus tawny, at length becoming hoary, woody-corky, very hard, exactly triangular, even, at first hairy or villous.

Pores curt, round, minute, cinnamon, at first covered with cinereous-yellow pruina.

On dead *Crataegus*. River Forest. When growing on the underside of a log, it is often wholly resupinate. The pore-surface in young plants has a grayish-cinnamon tint, not seen in *F. igniarius* at any stage of its growth.

Fomes igniarius L.

Pileus at first tuberculose-globose with a thin light covering, appressed-flocculose, canescent, then ungulate, blackening, the margin rounded, context zonate, ferruginous.

Pores very small, convex, stratose, cinnamon, at maturity white-stuffed, at first canescent.

Mycelium and spores white. (Berkeley.)

Glen Ellyn, Winfield, Riverside, etc., usually on species of *Quercus*. Skokie marsh, on dead *Populus tremuloides*. Pepoon.

Old plants often present the appearance of several thin (.5 to 1 cm.) rounded, superimposed layers, reminding one of a plate of buckwheat cakes. The weathered portions of the plant are vertically and transversely checked, but not deeply rimose. A form wholly resupinate has been found on the under side of trunks at Riverside and Glencoe. This must be carefully distinguished from resupinate forms of *F. fulvus* and *P. gilvus*.

A form differing widely from the above, and formerly referred by our collectors to *F. rimosus* Berk., may belong here. It is frequent on dead trunks of various trees, particularly on *Quercus*. The young sporophores are in the form of discoid lumps. The surface of the growing plant is covered with a cinnamon velvety pruina which disappears with age. The border is very broadly rounded (4 to 6 cm. thick). Old plants show one or two deep concentric sulcations. The weathered portions are of a dull black color, deeply and irregularly cracked. The pores are 3 to 8 mm. long, about 1-5 mm. broad, not stuffed; spores globose, ferruginous, 3 to 3½ μ. It agrees in many particulars with *F. badius* Berk. from Arctic North America, but the pores of that species are said to be 1-3 mm. in diameter, and the pileus "crustaceous-laccate."

Fomes Everhartii Ell. & Gall.

Pileus dimidiate, unguliform, zonate, convex above, nearly plane below; margin subobtuse and clothed with a rich rhubarb-yellow thin tomentum, at length subglabrous.

Pores rhubarb-yellow, equal, round, substratose, armed with abundant stout spines, 15 to 25 x 6 to 10 μ.; spores ferruginous, globose, 3 to 3½ u., or ovate-globose, 3½ to 4½ x 3 to 3½ μ. Pileus 6 to 12 cm. wide, 6 to 8 cm. long, cork-leathery, rhubarb-yellow within and repeatedly zonate.

A single specimen collected in woods (near Winfield?), by Mr. Harry Ashley. It is much larger than the dimensions given above, being 24 cm. broad, 12 cm. long, 10 cm. thick at the base. It agrees perfectly with the specimens distributed in N. A. F. as *Mucronoporus Everhartii*. On dead standing trunks of *Quercus*. Woods near Bartlett.

Fomes fraxinophilus Pk.

Pileus sessile, thick, corky, subtriquetrous, narrow, somewhat decurrent behind, the first year whitish, with a minute whitish

tomentum or hairiness, then gray, finally blackish, in old specimens, concentrically sulcate, rimose, substance obscurely zonate, whitish, then isabelline or pale-tawny, the margin obtuse.

Pores stratose, plane or subconvex, small, nearly equal, subrotund, the dissepiments obtuse, entire, whitish.

Spores white, broadly elliptical, 7.5 to 9 x 6 to 7.5 μ; pileus 5 to 10 cm. long, 2.5 to 3.5 cm. broad. On living trees of white ash.

Near the base of trunks of *Fraxinus*, River Forest (Harper); and Glen Ellyn.

Prof. MacBride suggests (Bull. Lab. Nat. Hist. Ia. 3^3: 20) that this is probably a synonym of *F. ulmarius*. Our specimens are too imperfect to warrant a conclusion. They are referred here provisionally, as they were found growing upon ash.

Fomes scutellatus Schw.

Small, rarely dimidiate, 1 to 2.5 cm. broad, wholly affixed by the base, hence scutellate, orbicular or unequally undulate; pileus very hard, blackish-fuscous, rugose-sulcate, zoned, plicate, glabrous; margin white, somewhat prominent.

Hymenium concave, white, pulverulent. Pores minute, rhomboidal, at length blackish, tubes whitish-cinereous; context fulvous or cinnamon.

Riverside. October, 1902. Harper.

Fomes Ribis Fr.

Pilei horizontal, imbricated, coriaceous, rigid, flattened, almost even, velvety, ferruginous then umber, margin acute.

Pores short, minute, and with the thin flesh fulvous. Perennial, stratose; pileus often indistinctly zoned.

At the base of currant bushes in a garden at Wheaton, 1898 to 1908. The fungus often wholly encircles the stems and superficial roots of the host. The new growth appears as an elevated proliferous zone at the margin of the pileus of the preceding year, and is of a bright ochraceous color, standing out in sharp contrast to the umber-colored zone of the last year, while this older band or zone contrasts in turn with the still darker or blackish one preceding it. The pores, however, are continuous over the whole under surface of the plant. The pilei are irregular in shape, 3 to 6 cm. broad; pores about 2 mm. long.

POLYPORUS.

Pileus fleshy, at first soft, becoming indurated, zoneless without, but with the context zonate or radiate-fibrous; hymenophore descending as a trama between the pores, which are therefore inseparable from the context and from each other.

Plants stipitate, sessile or lateral, lignicolous or terrestrial.

With a simple central or eccentric stem. 1
With numerous pileoli from a short fleshy stem or tubercle. 5
With pileus sessile, dimidiate or effused-reflexed. 7
1. Stem not black at the base 2
1. Stem black at the base. 4
2. Pileus thick, spongy-corky. . . . . *P. Schweinitzii.*
2. Pileus thin, glabrous. 3
3. Stem glabrous, pores medium size, decurrent. . . . . *P. poripes.*
3. Stem somewhat scaly, pores large, rhomboidal. . . . . *P. arcularius.*
3. Stem villous-scaly, pores small, angular or circular . . . . . *P. brumalis.*
4. Pileus glabrous, pores small, plant epixylous . *P. picipes.*
4. Pileus subtomentose, pores large, plant terrestrial. . . . . *P. radicatus.*
5. Pileoli broad, reddish-yellow, pores sulphur-yellow. . . . . *P. sulphureus.*
5. Pileoli narrow, fuliginous, pores white. 6
6. Pores very small, acute. . . . . *P. frondosus.*
6. Pores large, unequal, angular . . . . . *P. Berkeleyi.*
7. Pileus reddish-ferruginous, brownish or fuliginous. 8
7. Pileus pallid-fuliginous. 9
7. Pileus whitish, dimidiate 10
7. Pileus irregular in shape. 12
8. Pileus reddish-yellow, pores tawny. . . . . *P. nidulans.*
8. Pileus reddish-brown, pores pallid . . . . . *P. resinosus.*
8. Pileus yellow-fuliginous, pores brown-ferruginous. . . . . *P. gilvus.*
9. Substance thick, pores not becoming black in drying. . . . . *P. fumosus.*
9. Substance thin, pores becoming black in drying . . . . . *P. adustus.*
10. Context zoned . . . . . *P. galactinus.*
10. Context not zoned. 11
11. Pileus thick, smooth, pores white. . . . . *P. chioneus.*
11. Pileus thin, fleshy-tough, pores brownish flesh-color. . . . . *P. dichrous.*
12. Pileus tuberculous, whitish, pores concolorous. . . . . *P. distortus.*

Polyporus Schweinitzii Fr.

Pileus date-brown, thick, spongy-corky, strigose-tomentose, rugged.

Stem very thick, short or obsolete, ferruginous. Context brown, soft.

Pores large, variable in size, torn, sulphur-greenish. Spores oval, white or transparent, 8 x 3 μ. (W. G. Smith.)

About the roots of decaying pine stumps. Millers. Local. Pores quickly changing to brownish when bruised. Pilei of our plants 10 to 20 cm. broad, many of them distorted. *P. hispidoides* Pk. and *P. tabulaeformis* Berk. are synonyms, according to the authors of these species. It is *Romelia sistotremoides* (Alb. & Schw.) Murrill, Bull. Torr. C1.31: 339, and *Phaeolus sistotremoides* (Alb. & Schw.) Murrill, N. A. Fl. 9:90.

Polyporus poripes Fr.

Pileus fleshy-pliant, sinuate-repand, glabrous, cinereous-fuscous.

Stipe central or eccentric, somewhat firm, glabrous, punctate from the decurrent pores. Pores medium size, short, acute, white.

Pileus azonate, 3.5 to 7 cm. broad; stipes 2.5 to 4 cm. long, 6 mm. thick.

Growing on the ground in woods. Glencoe. August. Harper. *P. flavovirens* B. and Rav. is said to be based upon an older form of this species.

Polyporus arcularius Batsch.

Pileus coriaceous, tough, convex, subumbilicate, azonate, brown-scaly at first, then glabrous, yellowish, the margin strigose; context white.

Stem short, slightly squamulose, brownish. Pores oblong or rhomboidal, thin, rather large, the mouths entire, whitish becoming yellowish or brownish when dry.

On dead wood, sticks, etc. Frequent during summer. Pileus 2 to 5 cm. broad; stipe 2 cm. or less in length. Very common on railroad ties. Pepoon.

Polyporus brumalis Pers. (Plate XII, Fig. 1.)

Pileus fleshy-pliant then coriaceous, somewhat umbilicate, zoneless, in the first year villous, fuliginous, in the second squamulose becoming smooth, becoming pale; context white.

Stem hirsute-squamulose; pores oblong, mouths circular or angular, toothed, white, at length becoming yellow. The margin of the pileus is somewhat fimbriate-ciliate.

Pileus 2.5 to 10 cm. broad; stem 2.5 to 5 cm. long, 4 to 8 mm. thick. Spores oblong, slightly curved, hyaline, 6 x 2 μ.

On fallen logs and branches in open woods. Frequent. *P. luridus* B. & C. is a darker autumnal form.

Polyporus picipes Fr. (Plate XII, Fig. 2.)

Pileus fleshy, coriaceous then rigid, tough, even, glabrous, depressed on the disk or behind.

Stipe eccentric and lateral, equal, firm, at first velvety, then naked and punctate, black; pores decurrent, round, small, white, then reddish-yellow.

Pileus very thin but tough, 7 to 15 cm. broad, often lobed, the color varying from pale to chestnut, especially on the depressed disk.

On prostrate decaying trunks in damp woods. Also on decaying trunks of old apple trees in orchards. The depressed or irregularly funnel-shaped disk of the pileus in the mature plant is often black, as is also the margin of the pileus. Lloyd, Myc. Notes, No. 29, states that it is very near the European *P. varius* Fr. He considers it the American form of that species.

Polyporus radicatus Schw.

Pileus fleshy-tough, pulvinate, depressed, sooty-pale, subtomentose.

Stem eccentric, long, tapering downward, rooting, black below; pores somewhat decurrent, very large, obtuse, equal, white.

On the ground near stumps in woods; autumn. Margin of pileus incurved; flesh spongy-soft, unchangeable, white, taste somewhat peppery. The stem is subtomentose when young, subtomentose or somewhat scaly when old, often enlarged or subbulbous near the surface of the ground. The radicating portion of the stem is white within, occasionally fibrous-branched. Spores pallid, 9 to 16 x 6 μ. A cespitose cluster of three plants was found in woods at Glen Ellyn, September, 1902. The pileus in the largest of these was 17.5 cm. broad. The usual diameter is 6 to 10 cm.; the stem (exclusive of the radicating portion which is nearly as long), 5 to 10 cm., 12 to 16 mm. thick. *P. Morgani* Pk. is a synonym. According to Mr. Murrill, *P. kansensis* Ell. and Barth. is the same species.

Polyporus sulphureus Bull. (Plate XIII, Plate XIV, Fig. 1.)

Cespitose, multiple, moist, cheesy; pileoli very wide, imbricated, undulate, smoothish, yellow with a tinge of red.

Pores plane, sulphur-yellow with a tinge of red; spores ovoid, papillate, 7 x 5 μ.

At the base of stumps; summer and autumn. Growing in dense, imbricated clusters, often forming a mass 2 or 3 dm. broad; quite attractive on account of the varying tints of bright-ochraceous, orange or salmon-red. It is one of the phosphorescent species. Edible, but too tough to be desirable. It is soon destroyed by larvae. It is given as *Laetiporus speciosus* (Batt.) Murrill, in N. A. Fl. 9: 72.

Polyporus frondosus Dicks. (Plate XIV, Fig. 2.)

Very much branched, fleshy-fibrous, somewhat tough, the pileoli very numerous, fuliginous-gray, dimidiate, rugose, lobed, intricately recurved; flesh white.

Stems all united into a short trunk, white; pores small, acute, white.

Pileoli 1 to 2 cm. wide, the entire plant 15 to 30 cm. broad.

About stumps. Autumn. Not common.

Polyporus Berkeleyi Fr.

Very much branched, fibrous, fleshy, a little tough; pileoli very numerous, recurved and imbricate, fibrous-tomentose, dusky-gray.

Stipes thick and canescent, white; pores large, unequal, angular, white; spores white, subellipsoid, 7 to 8 μ.

A single plant was found by Mr. Bertolet at the base of an oak tree at South Chicago, September, 1902. It consists of a mass of branches and pileoli 2.5 dm. in diameter and 1.5 dm. in height. The flesh is white; the pores in many portions of the plant labyrinthine. The fuliginous-gray overlapping pileoli are in many places thickly powdered by the white spores. These latter are smaller than the dimensions given by Mr. Berkeley, measuring only 4 to 5 μ. The species is said to attain a diameter of 5 dm. It is evidently rare here, as so conspicuous a plant could scarcely escape the notice of collectors.

A single specimen was collected by Dr. Watson at LaGrange, September, 1903.

Polyporus nidulans Fr.

Pileus somewhat pale yellowish, of the same color internally, fleshy, very soft, somewhat pulvinate, villous, becoming even, zoneless.

Pores elongated, of medium size, unequal, angular, tawny brick-color. Fragrant when dry.

On rotten wood in woods. Frequent. Pileus dimidiate, 2.5 to 9 cm. broad, 12 to 25 mm. thick. Specimens collected by Dr. Watson, at Elmhurst, have the pileus not hirsute, but finely pubescent near the margin; deep flesh-color. The pores are angular, very unequal in size and shape. According to Saccardo *P. niveus* Fr. is a synonym.

Polyporus resinosus Schrad. (Plate XV, Fig. 1.)

Pileus fleshy then corky, flocculose-pruinate, reddish-brown, the cuticle adnate, rigid, rivulose, resinaceous; within azonate, pallid.

Pores minute, equal, pallid.

On decaying prostrate trunks of *Tilia americana*, in moist woods, River Forest and Glen Ellyn. Also on decayed trunks of apple trees in gardens and orchards. In our specimens the margin of the pileus is usually strongly depressed. When mature, the surface becomes much wrinkled, and often marked with blackish bands or zones and the context becomes variously shaded, wood-colored and ochraceous. Specimens 2 to 2.5 dm. broad are not uncommon. *Ischnoderma fuliginosum* (Scop.) Murrill, in N. A. Fl. 9: 32.

Polyporus gilvus Schw. (Plate XV, Fig. 2.)

Pileus corky-woody, hard, effused-reflexed, imbricate and concrescent, subtomentose, thin, scabrous and uneven, reddish-yellow, then subferruginous, the margin acute.

Pores minute, round, entire, brownish-ferruginous.

Very common on trunks of living and dead *Quercus*, and frequent on other trees. Occasionally the plant is wholly resupinate.

The context is of a yellow-ferruginous color not approached by any other species in our district, with the exception of *Fomes Ribis*.

This is the type of the genus *Mucronoporus* Ellis, including forms of Polyporei in which the tubes are furnished with projecting spinules. In the present species they are said to project 15 to 20 μ., and to be 4 to 5 μ. thick at the base.

Polyporus fumosus Pers.

Pileus fleshy-corky, azonate, sericeous, becoming glabrate, sooty-pallid, dilate-adnate behind, within fibrous, subzonate.

Pores small, short, round, entire, whitish-smoky, becoming darker if rubbed. Context white or pallid.

On stumps, dead trunks, etc., of various trees. In form and habit often resembling forms of *P. adustus*, but the pileus is corky, thicker and paler than in that species. The imbricated pilei often extend along the split surface of a standing trunk or fallen branch a distance of several metres.

Polyporus adustus Willd.

Pileus fleshy-tough, thin, villous, cinereous-pallid, effuso-reflexed behind

Pores minute, short, round, obtuse, whitish becoming blackish in drying; context white.

On dead logs and stumps; very common. Often wholly resupinate, in patches many cm. in diameter, or else widely and irregularly effused, here and there forming confluent pilei. The margin of the young pileus is whitish, obtuse, and sterile. The pore-surface is fuliginous or slate-color. In May, 1899, this plant appeared upon a dead stump in a lawn at Wheaton. By July, more than half the surface of the stump was covered by the fungus, which included at its base such twigs and grasses as chanced in its path, and even extended o it upon and into the adjacent soil a distance of 5 to 7 cm.

The genus *Myriadoporus* is said to be founded upon an imperfect form of this species. This form has been found on rotting logs at Riverside.

Polyporus galactinus Berk.

White; pileus simple or subimbricate, spongy-fleshy, soft, becoming hardened, strigose-tomentose, zonate within, the margin incurved.

Pores minute, round, entire. Pileus 5 to 10 cm. in width, somewhat pulvinate.

On the ground attached to the roots of trees or decaying stumps. July to October.

The surface of the pileus is irregularly rugose or roughened with warts and tubercles, but is not strigose-tomentose in our specimens. The color of the fresh plant is often a dirty, smoky or bluish-white. The pore-surface is convex, white or creamy-

white changing to ferruginous in drying. The fructification appears to be annual and is soon destroyed by larvae. The context when fresh is pure white, but assumes brownish tints upon exposure or where broken.

Externally resembling *F. connatus*, but in that the pores are stratose.

Polyporus chioneus Fr.

Pileus fleshy, soft, becoming even, smooth, zoneless, often extended behind, margin inflexed.

Pores very small, short, round, equal, entire. Hyaline-white when moist, shining-white when dry. Spores white, oval, 21 x 3 μ. (W. G. S.)

On dead trunks, Winfield. Not common. The context in the dried plant is of uniform texture, not fibrous, soft, cutting like chalk. Pilei dimidiate, 2.5 to 3 cm. broad; pores 3 to 5 mm. long, about half the thickness of the pileus. Spores not seen.

Polyporus dichrous Fr. (Plate XVI, Fig. 1.)

Pileus fleshy-tough, thin, soft, effused-reflexed, even, silky, white.

Pores short, minute, round, obtuse, brown-cinnamon.

Pileus 2.5 to 5 cm. in breadth, projecting 2 cm. or less, but often laterally effused and confluent to the extent of several centimeters.

On dead trunks, Glen Ellyn and Evanston. August. The surface of the mature plant becomes pallid and the pores brownish-purple or almost black.

On account of the waxy-gelatinous character of the pores, it has been made by Montagne the type of a new genus and described in Cuban Fung. p. 385, as *Glocoporus conchoides*.

Polyporus distortus Schw.

Pilei numerous, subdimidiate, distorted, auriform or orbicular, covered all over by the pores which are white, becoming pallid, minute, sinuate, rather soft, and which often grow upon the margin of the pileus, rendering it thick and porose, and run down on the spongy, coriaceous stipes. Frequently destitute of a pileus, being everywhere porose and clavate or cylindrical.

At the base of stump of *Quercus alba*, and extending into the grassy ground near the stump. Woodland pasture, Lombard. November.

The specimens so referred were soft and spongy when fresh, white, but becoming brownish where rubbed or bruised. The sporophore is without definite shape, composed chiefly of irregularly superimposed layers of pores, forming a tuberculose or nodulose mass. The pores are sinuate and very variable in size. Prof. Peck states that his *P. abortivus* is a form of this species.

POLYSTICTUS.

Pileus coriaceous, membranaceous or fibrillose; pores evolved successively from the center toward the margin, at first superficial, punctiform, discrete, open, then more deeply excavated, crowded, always vertically opposed to the substance of the pileus. Trama formed by the hymenophore. Lignatile or terrestrial.

1. With a stem..... *P. cinnamomeus.*
1. Sessile..... 2
   2. Pileus glabrous..... 3
   2. Pileus velvety or hirsute..... 4
   3. Pileus whitish, with darker zones, pores pallid..... *P. conchifer.*
   3. Pileus and pores cinnabar-red..... *P. cinnabarinus.*
   4. Pileus white, pores violet becoming pale. *P. pergamenus.*
   4. Pileus whitish or grayish..... 5
   4. Pileus dark, with zones of various colors, pores white then pallid..... *P. versicolor.*
5. Pileus silky-fibrillose, becoming alutaceous, pores concolorous..... *P. biformis.*
5. Pileus shaggy with rigid hairs, pores whitish then yellowish..... *P. hirsutus.*

Polystictus cinnamomeus Jacq.

Wholly bright cinnamon without and within; hymenium paler.

Stem velutine-tomentose, 3 to 4 cm. long, 4 to 5 mm. thick.

The pileus is plano-depressed or subinfundibuliform, 2 to 3 cm. broad, zonate; the margin often remarkably fimbriate; hymenium sterile toward the margin.

Pores large, angular; spores ellipsoidal, 6 to 7 x 4 to 5 μ.

Common in wooded sand dunes at the head of Lake Michigan. When old, the pileus becomes ashy-gray, beautifully marked with narrow, darker, concentric zones. Single plants are commonly 1.5 to 2.5 cm. in diameter, but by confluence of two individuals the pileus may be twice as broad. Specimens occasionally occur which, though similar in other respects, have smaller pores. These possibly are the form which has been described by Berkeley as *P. oblectans*, and by Prof. Peck as *P. subsericeus* and *P. similimus*. The mode of attachment of the pores to the stem is not constant. In a series of plants some may be found with the pores scarcely more than adnate, while others have them decurrent on one side of the stem, and still others evenly decurrent all around the stem.

Polystictus conchifer Schw. (Plate XVI, Fig. 2.

Whitish; pileus coriaceous, very thin, concentrically sulcate, glabrous, commonly reniform or flabelliform and substipitate.

Pores medium, thin, acute, angulate, dentate, but scarcely lacerate.

On dead sticks and small branches lying on the ground in woods. Pileus 1 to 2.5 cm. broad, often conchiform, tapering to a narrow base, white or whitish, marked with a few fuscous concentric zones and radially grooved or furrowed. Pores pallid, very shallow; spores white, oblong, about 6 x 2 μ.

Polystictus cinnabarinus Jacq.

Pileus corky, pubescent, becoming glabrous, scarcely zonate, rugulose, cinnabar-red, fading, within floccose, brighter.

Pores round, medium sized, entire, of a deeper red than the pileus.

Not rare on linden, poplar and wild cherry in woods throughout our district. A beautiful fungus, recognized at a distance by its brilliant color. Pileus usually 5 to 8 cm. in breadth, projecting 3 to 6 cm.; sometimes centrally attached. Upon a fallen log in woods at Winfield, over a hundred specimens were counted.

Polystictus pergamenus Fr.

Pileus coriaceous-membranaceous, rigid, tomentose, concentrically sulcate, white.

Pores seriate, violet or purple, becoming pale, produced at length in the form of very thin dentate lamellae.

On trunks and branches; common. Often in imbricated series, extending several meters up the trunk of a dead *Populus* or *Tilia*, the individual pilei 2 to 5 cm. broad, projecting 2 or 3 cm. Large specimens are usually hirsute and concentrically sulcate; smaller ones even, delicately banded with narrow concentric lines, and radiate-striate. The plants with the latter characters are usually flabelliform, not more than 2 cm. broad. The species is occasionally proliferous, putting forth new pilei at the edge of those of the preceding season. The pores when young are a rich violet-purple, but fade to a dingy brown with age.

Polystictus versicolor L. (Plate XVII, Fig. 1.)

Pileus coriaceous, thin, rigid, applanate, depressed behind, even, velvety, shining, variegated with zones of different colors.

Pores minute, round, acute and lacerated, white, becoming pallid or yellowish.

On wood of all kinds. Common. When growing on the tops of stumps often forming rosettes 8 to 15 cm. in diameter, the individual pilei 2.5 to 6 cm. broad; context thin, white, coriaceous; pores, including the thick dissepiments, about $\frac{1}{4}$ mm. in diameter. The growing plants are beautifully marked with zones or bands of various shades of gray, red, brown and black.

Polystictus biformis Kl.

Whitish or alutaceous; pileus coriaceous, flexible, tough, subzonate, with innate radiating fibers, the context fibrillose, concolorous.

Pores very large, simple, compound or confluent, round, elongated and flexuous, the dissepiments dentate then lacerate, the hymenium finally resolved wholly into teeth.

On decayed fallen branches, Glencoe. November. The plants project 3 or 4 cm. and are laterally confluent. The pore surface is very irregular and uneven. When old, the pores are lacerated so that the fungus has the appearance of an *Irpex*.

Polystictus hirsutus Fr.

Pileus unicolorous, but zoned with concentric furrows, whitish, corky-coriaceous, convex-plane, shaggy with rigid hairs.

Pores round, obtuse, whitish, becoming somewhat fuscous.

On trunks, branches, stumps, etc. Common. Pileus 4 to 9 cm. wide, projecting 3 to 6 cm., dimidiate, reniform, often imbricated and laterally concrescent, sometimes orbicular and attached by the vertex, rarely proliferous, new pilei developing from the margins of those of the preceding season. The pileus is in the main uncolorous, but the zones near the margin are sometimes darker than those of the older portions of the plant. The color may be whitish, pallid gray, cervine, or even cinnamon-brown. The contex is pure white, soft-corky in texture. The pores become yellowish, ochraceous, grayish, fuscous, or even brownish-slate-color, and are paler toward the margin of the pileus. Their diameter is about $\frac{1}{3}$ mm.

PORIA.

Sporophore entirely resupinate, indefinitely spreading; pileus very thin or none (i. e., tubes seated on a thin layer of mycelium), waxy, leathery or membranaceous.

Broadly expanded, more or less fleshy, soft. 1
Effused, coriaceous, dry, tough 5
1. Pores minute, equal, round 2
1. Pores medium or large, unequal, subangular 4
2. Pores white becoming pallid 3
3. Plant growing in interior of hollow trunks . . . . . *P. interna.*
3. Plant growing on rotten wood, border byssine. . . . . *P. mollusca.*
3. Plant growing on fallen branches, border fimbriate-ciliate . . . . . *P. fimbripora.*
2. Pores white, then bright buff, border minutely downy . . . . . *P. armeniaca.*
2. Pores white then yellowish, border slightly marginate. . . . . *P. medulla-panis.*
2. Pores white then pale tan, odor subacid . . . *P. subacida.*
2. Pores white then ochraceous-pallid; incrusting minute. . . . . *P. obducens.*
2. Pores pinkish-ochre, border whitish. . . . . *P. attenuata.*
4. Pores pure white. . . . . *P. candidissima*
4. Pores white becoming pale brown. . . . *P. vaporaria.*
4. Pores salmon becoming purple-brown . *P. salmonicolor.*
5. Pores rather large, white then yellowish . . . *P. serena.*
5. Pores minute, pallid then rich cream-color . *P. xantholoma.*

5. Pores minute, golden yellow..... *P. pulchella.*
5. Pores minute, brown, mouths cinereous.... *P. spissa.*
5. Pores medium size, tawny then cinnamon.. *P. ferruginosa.*
5. Pores rather large, cinnamon..... *P. contigua.*

Poria interna Schw.

Longitudinally penetrating cavities in rotten trunks, very flexuous, wholly white, becoming pale, at first soft, thick, the margin at length inflexed, the tubules often oblique and longer, pores flexuous, minute.

Inside a hollow stump of *Quercus.* Millers, Indiana. June.

Poria mollusca Fr.

Effused, thin, soft, white, the border byssine, fibrillose-radiating.

Pores in the center, or collected here and there, small, thin, round, unequal, lacerate, becoming pallid.

On a charred, decaying log of *Pinus Strobus,* Millers, Ind. June, 1903. Extensively effused, covering nearly all of the underside of the log. The specimen was sent to Professor Burt, and referred by him as above. It does not agree well with Fries' description, the pores being large and irregular, with rather thick dissepiments. The plant was of a bright lemon-yellow color when collected, but soon faded to pallid.

Poria fimbripora Schw.

Subtriangular, fleshy, moist, spongy. Pileus glabrous, pallid, when dry rugulose and contracted.

Pores whitish, round, minute, mouths very much fimbriate-ciliate.

Under side of decorticated log of *Ulmus.* River Forest, May.

Named by Prof. Burt for Harper. Our specimens are wholly resupinate, and have weathered to a dull wood-color. From their appearance it is not easy to believe that they belong to the pileate species described by Schweinitz.

Poria armeniaca Berk.

Broadly effused, very thin, membranaceous, suborbicular, confluent, border minutely downy.

Pores white, then becoming bright buff, shallow, minute, round, often confined to the center, the marginal structure byssoid under a lens.

On dead branches. Riverside. Determined by Prof. Harper.

Poria medulla-panis Fr.

White, effused, determinate, somewhat undulated, firm, smooth, the naked circumference somewhat marginate; almost wholly formed of the longish, medium-sized, entire pores. Becoming yellowish when old.

Near Chicago. Harper. According to Prof. Harper, *Poria pulchella* Schw., is probably a form of this species.

Poria subacida Peck.

Effused, separable, tenacious, flexible, uneven, determinate, the margin downy, narrow, pure white.

Pores small, subrotund, 2 to 6 mm. long, often oblique, whitish inclining to dingy-yellowish, pale tan-color or dull cream-color, the dissepiments thin, more or less dentate. Odor strong, subacid.

On a pine log. Millers, Indiana. October, 1903. Harper.

Poria obducens Pers.

White, effused, incrusting, innate, firm, wholly formed of very small, crowded, equal, distinctly stratose pores, the annual strata pallid-tan.

On bark of dead *Quercus*, woods, Glen Ellyn. August. The growing margin is smooth, definite, not separable from the matrix; the pores are of medium size, at first shallow, with thick dissepiments. In Fungi Col. No. 402, it is suggested that this species is probably only a resupinate form of *F. connatus*, while Cooke (Grev. 17: 58), considers it a resupinate form of *Polyporus salignus*.

The vesicular form of this species (*Polyporus induratus* Peck, Rep. 31: 37, *Myriadoporus induratus* Peck, Bull. Torr. Cl. 11: 17), has been found at Winfield, growing on dead sticks.

Poria attenuata Pk.

Resupinate, effused, very thin, separable from the matrix, pinkish-ochre, the margin whitish.

Pores minute, subrotund, with thin acute dissepiments.

On dead sticks of *Quercus*. Woods, Kenilworth. May. Near *P. vincta* Berk.

Poria candidissima Schw.

Effused; the mycelium a very thin, bombycine, but separable membrane.

Pores very large, at length oblique, and with the membrane pure white.

Effused in large cushion-like areas, covering the greater portion of a hickory stump in woods, Glen Ellyn. November, 1902. The plant is very thin and membranous at the margin, increasing in thickness toward the center of each area, where it is 3 to 5 mm. thick. It is soft and fleshy when fresh, pure white in color. When old it takes on a cervine hue, the pores become compressed, angular and more or less labyrinthine.

Poria vaporaria Pers.

Effused, innate, the mycelium creeping in the wood; floccose, white.

Pores large, angulate, white becoming pallid, crowded together into a contiguous, firm, persistent stratum.

On rotten wood in moist places in woods. Indeterminately effused, flesh-color, with a border of white mycelial threads which extend some little distance into the matrix. Pores uneven in size; spores subglobose, ochraceous, 4 to 5 μ.

Poria salmonicolor B. & C.

Resupinate, thick, mycelium mouldy-white.

Pores round, reddish, at length elongated and purple-fuscous.

Effused for several centimeters, margins thin, center thick, of a rich salmon color, at length brown.

On dead *Quercus* (?, woods, River Forest. Prof. Harper. The pore surface of our specimens is purplish-umber.

Poria serena Karst.

Broadly effused, immarginate, adnate, dry, arising from a byssine, at length evanescent mycelium which creeps over the matrix, white, yellowish when dried.

Pores rather large, round or angulate, at length flexuous, sublabyrinthine, 1 to 4 mm. long.

Under side of a log, Glencoe. May. Harper and Moffatt. On a stump in woods at Glen Ellyn, October.

Poria xantholoma Schw.

Widely effused, closely adnate, even, smooth, dry; the border rather broad, velvety, yellowish.

Pores minute, unequal, subrotund, obtuse, pale-yellowish.

On a log, Millers, Ind. June, 1903. Harper.

Poria pulchella Schw.

Resupinate-effused, unequal, subplicate, rugose, creeping, determinate; margin undulate, tumid, substerile.

Pores minute, regular, angulate, tubules suboblique, in superficial ridges. The whole fungus golden.

On a decaying log in woods at Riverside. October. Determined by Professor Burt.

Poria spissa Fr.

Widely effused, perennial, very hard, immersed, cinereous-brown; the margin very narrow, inflexed.

Pores minute, angular, obtuse, entire.

On a fallen branch of *Prunus serotinus*, Jewell's grove, Wheaton. April; on rotten log of *Quercus*, Riverside. October; on dead fallen branch of *Juglans nigra*, Winnetka. May. The latter is apparently the form described by Schweinitz (Syn. Car. p. 99), as *P. Juglandina*. The pore-surface is lustrous, like that of *Polystictus versicolor*.

Poria ferruginosa Schrad.

Effused, thick, firm, uneven, tawny, when mature brownish-ferruginous with a sterile border.

Pores medium sized, very long, subrotund and lacerate, cinnamon.

On a prostrate decaying trunk of *Prunus serotina*, Winfield. Autumn. Effused to the extent of several meters. Surface very uneven, here and there running over elevations of the bark and

encircling twigs. Pores 1 to 3 mm. long, rusty-cinnamon, sometimes oblique from position. The circumference of the growing plant varies in color from ochraceous to ferruginous. It belongs to the genus *Mucronoporus*, of Ellis and Everhart.

Poria contigua Pers.

Effused, firm, smooth, somewhat marginate, margin at first villous, cinnamon when young.

Pores rather large, equal, obtuse, entire.

On dead sticks of *Quercus*, Glen Ellyn. October. The color becomes a dull, wood-brown with age.

TRAMETES.

Tubes subcylindrical, not stratose; plants corky, sessile; trama descending between the pores.

Pores whitish or wood-colored ..... *T. rigida.*
Pores ferruginous-fuscous ..... *T. Peckii.*

Trametes rigida Berk. and Mont.

Pileus corky, undulate, by far the greater part resupinate; margin short, acute, subzonate, tawny-brown.

Pores medium size, round, equal, obtuse, whitish.

On the underside of a dead branch. Woods. Riverside. October, 1903. Determined by Prof. Harper.

Trametes Peckii Kalchb.

Pileus suberose, dimidiate, sessile, subdecurrent, hirsute, azonate, ferruginous-fuscous, at length faded, the margin acute.

Pores rather large, rotund-angulate, concolorous with the pileus, becoming fuscous with age; context wood-colored.

On trunks and stumps of *Populus* and *Salix*. Winfield and Wheaton. A resupinate form is occasionally found.

In Bull. Torr. Club, 32: 356, Mr. Murrill says that this is a synonym of *Trametes stuppeus* Berk.

DAEDALEA.

Pileus generally dimidiate, corky, leathery, persistent. Substance descending unchanged into the trama. Pores elongate, labyrinthiform.

Pileus cinereous with unicolorous zones ..... *D. unicolor.*
Pileus brown with darker zones ..... *D. confragosa.*

Daedalea unicolor Bull. (Plate XVII, Fig. 2.)

Pileus cinereous, with zones of the same color, coriaceous, villose-strigose.

Lamellae labyrinthiform, intricate, at length torn into teeth, whitish-cinereous or fuscous.

On logs, stumps, etc. Common. Pilei 5 to 7 cm. broad, projecting 2 to 3 cm., often imbricated and laterally concrescent. The young plants are of a yellowish-brown color, becoming darker with age, finally blackish-brown, and in damp places often more or less overgrown with green algae.

Daedalea confragosa Bolt. Plate XVIII.

Pileus corky, convex, subzonate, brown with concentric zones of a darker color, often concentrically furrowed and radiately rugose or sulcate; wood-color within.

Pores from subrotund and flexuous to narrowly labyrinthiform and lacerate, cinereous-pruinose, then reddish-brown.

Prostrate, hewed timber, Skokie marsh. Pepoon. On decaying, prostrate branches, Bowmanville. Harper. On stumps, Glen Ellyn.

"A handsome, finished-looking fungus, varying considerably in color, roughness, etc., generally very symmetrical, centrally attached and with an even margin, sometimes imbricated, two or three together."—McBride, Bull. Lab. Nat. Hist. Ia. III[3]: 8. Forms of this species collected at different stages of growth have been described under various names. Among the synonyms are: *Trametes rubescens* A. & S., *Lenzites Crataegi* Berk., *L. Cookei* Berk. and *L. proxima* Berk.

CYCLOMYCES.

Pileus coriaceous-membranaceous, velutine, fuscous or cinnamon. Lamellae concentric, becoming lacerate or polyporoid.

Stem central, sub-central or none.

Cyclomyces Greenii Berk.

Pileus orbicular, undulate, sublobate, zonate-tomentose, cinnamon, marked with a few furrows near the edge. Lamellae thin, acute, at length ashy. Stem central, obconic.

On hard damp ground in a woodland road. Glen Ellyn, August 1901 and 1902. Only a few plants found. Pileus thin, depressed then funnel-shaped, 3 to 8 cm. broad. Pores or gills thin-walled, unequal in size and shape, becoming labyrinthine with age. In some of our plants the pileus is sessile on the ground; in others there is a short abruptly conic stem 1 to 1.5 cm. long, to which the obconic pileus is joined by a narrow neck. In the largest plant there is an irregular stem 4 cm. long. The context of pileus and stem is wood color, corky when dry. Sometimes two or three pilei are concrescent, the stems remaining separate. The species, which is rare in the United States, seems to have disappeared from our station.

FAVOLUS.

Pileus dimidiate, or orbicular and substipitate, annual, soft, fleshy; pores reticulate-cellular, alveolate, the alveoli, formed of rather densely anastomosing lamellae, radiating from the point of attachment.

Favolus alveolaris D. C.

Pileus fleshy-tough, thin, reniform, fibrillose-scaly and tawny, becoming pale and glabrous.

Alveoli angular-elongated, whitish, the dissepiments becoming thin, rigid and dentate.

Stem eccentric or lateral, very short or obsolete. Pileus 2.5 to 5 cm. broad; spores oblong, 12 x 7 μ.

On dead prostrate trunks and branches, particularly of hickory. Frequent. May to August. Mr. Murrill in Bull. Torr. Cl. 31: 327, transfers it to the genus *Hexagona*.

MERULIUS.

Pileus generally resupinate, sometimes with free upturned edges or even dimidiate, soft; hymenium waxy, spread over shallow pits and obtuse reticulate folds which ultimately form more or less distinct, tortuous, denticulate pores.

Merulius tremellosus Schrad.

White, resupinate then free or reflexed, fleshy-tremellose, tomentose, margin radiate-dentate; folds various, ruddy.

On the underside of rotting logs; autumn. Appearing at first in orbicular patches which are pure white, then pink tinged with flesh-color towards the center. As the plants mature, the pore areas become reddish, the thin radiate border remaining white. Spores white, oblong, curved, slightly constricted in the middle, 4 to 5 x 1.5 μ. The fungus is often extensively effused, covering areas 2 or 3 dm. in diameter. In exposed situations, as upon the sides of logs and stumps, it breaks up into more or less concrescent, imbricate, subdimidiate pilei, whose upper surfaces are white or pallid, and whose margins are more or less deflexed.

POROTHELIUM.

Resupinate, somewhat membranaceous, producing papillae which are at first distinct and closed, soon opened in the form of pores, at length elongated and tubular.

Porothelium fimbriatum Fr.

Effused, membranaceous, tenacious, white, the border with a fringe of terete laciniae.

Warts of the pores hemispherical, at first and on the border distinct, afterward confluent in the middle.

Underside of decaying logs. Glencoe. River Forest. Harper.

SOLENIA.

Plants growing in dense clusters, mostly short-tubular, tubes somewhat cylindrical, distinct and free from one another, definitely facing the ground, mouth narrowed.

Plants cylindrical, white ..... *S. candida.*
Plants scattered, clavate-cylindric, ochraceous ... *S. ochracea.*
Plants crowded, pyriform, dingy-ochraceous or ferruginous ..... *S. anomala.*

Solenia candida Pers.

Sparse, cylindrical, glabrous, white.

On partially buried sticks, border of swamp, Millers, Indiana. Harper.

Solenia ochracea Hoffm.

Scattered, clavate-cylindric, tomentose, ochraceous, white within. Spores cylindric-oblong, 7 x 4 μ.

On dead logs, River Forest. July. Harper. It is considered by Massee to be only a variety of *S. anomala*.

Solenia anomala Fr.

Usually crowded and forming effused patches, pyriform, margin of hymenium incurved, externally pilose, varying from dingy ochraceous to ferruginous. Spores cylindric-oblong, 7 x 4 μ.

Var. *orbicularis* Pk. Receptacles collected in orbicular groups and seated on a conspicuous, dense, persistent, tomentose, tawny subiculum.

The variety found on rotten wood in moist places, Millers.

HYDNUM.

Plants pileate, central-stemmed or lateral, or resupinate and spreading, fleshy or corky; spines awl-shaped, usually regular, distinct at the base. Growing on the ground or on wood.

Entire, simple, with a central stem; terrestrial 1
Branched or tuberculiform, epixylous 4
Resupinate, or effused-reflexed, epixylous 5
1. Pileus whitish or yellowish 2
1. Pileus orange, ferruginous or blackish 3
2. Plant fragile ..... *H. repandum.*
2. Plant coriaceous-tough ..... *H. adustum.*
3. Pileus and stem orange ..... *H. aurantiacum.*
3. Pileus and stem ferruginous ..... *H. zonatum.*
3. Pileus and stem black ..... *H. nigrum.*
4. Pure white, much branched, spines 4 to 8 mm. long ..... *H. coralloides.*
4. Whitish, then brownish, tuberculiform, unbranched ..... *H. erinaceum.*
4. Whitish, tuberculiform with short branches, spines 12 to 25 mm. long ..... *H. caput-Ursi.*
4. Pilei cervine, scalariform, connate behind ..... *H. septentrionale.*
5. Plant effused-reflexed, ochraceous ..... *H. ochraceum.*
5. Plant resupinate 6
6. Subiculum and spines white ..... *H. pallidum.*
6. Subiculum and spines alutaceous ..... *H. Nyssae.*
6. Subiculum and spines orange-yellow ..... *H. chryscomum.*
6. Subiculum and spines umber ..... *H. crinale.*

Hydnum repandum L.

Pileus fleshy, fragile, somewhat repand, rather smooth, variable in color, whitish, yellow or flesh-color.

Stem irregularly shaped, pallid; spines 8 mm. long, concolorous with the stem.

Ground in woods, Glen Ellyn. August, 1902. The pileus cracks irregularly in drying. Taste at first mild, then slightly peppery. Spines terete, pallid, becoming darker in drying, sharp-

pointed, 6 to 8 mm. long. Pileus 4 to 6 cm. broad; stem 5 to 7.5 cm. long, 10 to 14 mm. thick. The species is edible.

Hydnum adustum Schw.

Pileus variable in shape, from orbicular and entire to dimidiate and reniform, coriaceous-tough, whitish or pale yellowish.

Stipe ascending, unequal, central or lateral.

Spines at first pallid or yellowish, then changing to brown or blackish. Pileus 5 to 7.5 cm. broad; stem 2.5 cm. or more long.

On dead sticks on the ground, woods, Glencoe. September. Spores elliptic-oblong, 12 to 15 x 6 to 7 μ. Most of the plants were covered with the mycelium of some parasitic fungus.

Hydnum aurantiacum Alb. & Schw.

Pileus orange, corky, compact, turbinate-dilated, with small elevations, zoneless, often covered with whitish down, zoned internally.

Stem short, orange. Spines 2 to 4 mm. long, whitish becoming fuscous.

Pileus 2.5 to 12.5 cm. broad; stem 12 mm. to 5 cm. long, 12 mm. to 2.5 cm. thick.

On the ground in woods. Millers and Glen Ellyn. August. *Hydnellum floriforme* (Schaeff.) Banker, Mem. Torr. Cl. 12: 159.

Hydnum zonatum Batsch.

Ferruginous; pileus equally coriaceous, thin, expanded, somewhat infundibuliform, zoned, becoming smooth, radiate-rugose, the paler margin sterile beneath.

Stem slender, somewhat equal, the base tuberous; spines slender, pallid then ferruginous.

Sandy woods and borders of swamps, Calumet Heights and Millers. Autumn. Pileus when young or moist, pale wood-color; often confluent; 2.5 to 5, occasionally 7.5 cm. broad; spines becoming fuscous-ferruginous. Spores pale watery-brown, globose, rough, 4 to 5 μ.

Hydnum nigrum Fr.

Pileus azure-blue-black, zoneless, but with a white margin when in fullest vigor, corky-rigid, club-shaped when young, then turbinate, at length flattened, plano-depressed, tubercular, black internally.

Stem 2.5 cm. long, stout, often rooting, unequal, black, tomentose at the base, internally of the same color. Spines awl-shaped, thin, rather short, white.

In pine woods, Dune Park, Indiana. October. Pepoon.

Hydnum coralloides Scop.

Pileus much branched, pure white, sometimes becoming yellowish with age; branches numerous, spreading, dense, angular or flattened, bearing the numerous awl-shaped teeth along the lower side.

Spores globose, uninucleate, 5 μ. Plant generally 5 to 10 cm. high.

On a dead, prostrate trunk, open woods, near Wheaton. September, 1897. A single specimen. The largest mass was about 10 cm. in diameter; near it were several immature ones, 2.5 to 5 cm. high and broad. Edible, but somewhat tough.

"Growing in abundance on a log in woods south of Naperville, 1902." (Umbach.)

Hydnum erinaceum Bull.

Pileus white, becoming yellow, fleshy, elastic-tough, pendulous, tubercular, immarginate, torn into fibrils above.

Aculei very long, straight, equal, pendulous.

A single plant was found growing out of a decayed spot in the trunk of living *Quercus*, in woods at Winfield. October, 1904. The specimen was globose, pure white, 3 cm. in diameter, wholly covered with slender spines.

Hydnum caput-Ursi Fr. (Plate XIX, Fig. 1.)

White, fleshy, substipitate, tuberculiform, the body covered with short branching processes which bear the spines.

Spines terete, somewhat flexuous, 12 to 25 mm. long.

A single plant was found on the dead trunk of a fallen *Hicoria ovata*, near Wheaton, November, 1900. It was still in vigorous growth, although the upper portion had been blackened by frost. It measured 22 cm. in length by about 11 cm. in height. The species has also been collected by Prof. Umbach, near Naperville.

Hydnum septentrionale Fr. (Plates XX, XXI.)

Fleshy-fibrous, tough, pallid; pilei innumerable, plane, scalariform, connate behind into a thick solid body, the margin straight, entire.

Aculei crowded, slender, equal. In woods, on standing trunks.

A single specimen was found by Mr. Gammon, growing near the base of an oak tree near Evanston. September, 1900. A single specimen found by Mr. Bates, growing in the decayed trunk of a living apple tree, La Grange. November, 1902. The plants give out a strong, unpleasant odor in drying; this persists in the dried plants for years. The photographs are of plants collected in Northern Michigan.

Hydnum ochraceum Pers.

Pileus effused-reflexed, coriaceous, thin, zonate, ochraceous.

Spines minute, ochraceous-flesh-color.

On the under side of dead sticks and fallen branches. Frequent. Pileus 2.5 to 7.5 cm. broad when well grown, but frequently more or less resupinate.

Hydnum pallidum C. & E.

White, effused, subiculum membranaceous, soft, margin villous.

Spines slender, scarcely a millimeter long, crowded, white, becoming fuscous.

River Forest. Common.

Hydnum Nyssae B. & C.

Subiculum effused, copiously pulverulent, alutaceous.

Spines long, crowded, subulate, acute, often pencilled at the tip, concolorous. Effused for several centimeters with scarcely any border. Spines pubescent with occasional long hairs at the apex.

On a rotten stump, Wasco. August. The subiculum has an indefinite, pulverulent, whitish border. The long hairs found at the tips of some of the spines are a peculiar character of the species.

Hydnum chryscomum Und.

Resupinate, forming areas 2 to 6 cm. each way; mycelial strands wide-creeping, more or less branched, bright orange-yellow, expanding here and there to form a membranous subiculum bearing the bright orange-yellow spines; subiculum thin, whitish-fimbriate at the margin, yellowish within and later bright orange-yellow.

Spines crowded, 1 mm. or more long, often confluent so as to appear flattened, terete when single, concolorous, rather obtuse.

On the under side of a very rotten trunk in woods, Winfield. September, 1900. The plant produces cord-like, branching strands, a dm. or more in length, which ramify upon or within the decaying wood, but are easily separable from it. These strands are almost exactly the color of the rootlets of *Toxylon pomiferum*. The membranous subiculum is composed of rather coarse loosely interwoven threads, seceding from the matrix, the byssine border indefinite. In November, 1902, the species was found creeping extensively beneath the bark of a prostrate, decaying trunk of *Quercus alba*. These plants were sterile. Their growth finally separates the bark from the wood. The mycelium was not found upon or within the tissues of the bark, although it ramified freely in the rotten wood beneath.

Hydnum crinale Fr.

Subiculum umber, effused, villous-interwoven, thin.

Spines long, crowded, equal, very slender, umber.

On the bark of a rotting log, woods, Riverside. October.

IRPEX.

Plants leathery or woody, pileate or resupinate; teeth concrete with the pileus, arranged in rows like network, connected at the base by folds which are lamellae-like (in sessile species), or resembling honeycomb (in resupinate ones). Growing on wood.

Plant effused-reflexed..... 1
Plant wholly resupinate..... 2

1. Pileus white or pallid ..... *I. lacteus.*
1. Pileus tobacco-color ..... *I. tabacinus.*
   2. Plant white ..... *I. ambiguus.*
   2. Plant olivaceous then cervine ..... *I. fuscescens.*
   2. Plant whitish, centrally yellowish or pale ferruginous ..... *I. nodulosus.*

Irpex lacteus Fr. (Plate XIX, Fig. 2.)

Pileus effused-reflexed, coriaceous, villous, concentrically sulcate, white.

Teeth close, seriately arranged, acute, more or less incised, white.

Pileus about 2.5 cm. in width and projecting 10 or 12 mm.

On dead sticks and branches of all kinds. Our most common species. Often confluent for a distance of several meters, and wholly encircling the branch upon which it grows. In old, weathered specimens the teeth become cervine or ochraceous, when it is *I. sinuosus* Fr. Sometimes wholly resupinate, occasionally with small, irregular, nodulose elevations appearing like abortive pilei. These are not always at the circumference, but may appear at any point on the surface of the fungus.

Irpex tabacinus B. & C.

Narrowly reflexed, subzonate, pubescent, long-decurrent behind, bright tobacco-color.

Hymenium concolorous; teeth compressed, obtuse, unequal, seriate.

On decaying trunks of *Populus*, woods, Glen Ellyn.

Irpex ambiguus Pk.

Resupinate, adnate, subiculum very thin, floccose-pruinate, white, becoming pallid with age.

Aculei oblique, somewhat united at the base, minute, very variable, subulate and entire or compressed, acute, truncate, branched, incised or subserrate, white when young, becoming pallid with age.

Near Chicago. Harper.

Irpex fuscescens Schw.

Coriaceous-membranaceous, olivaceous then cervine, at first orbicular, then confluent and extensively effused, with a narrow fimbriate border.

Teeth irregular, unequal, compressed, setulose, cervine.

On dead fallen branches, Winfield and Glen Ellyn. When old, the plant becomes cinnamon-colored or ferruginous.

Old, weathered specimens become cinnamon-brownish, and these are said to be *I. cinnamomeus* Fr. (Morgan.)

Irpex nodulosus Pk.

Resupinate, forming suborbicular patches 10 to 25 cm. or more in diameter, subseparable; subiculum thick, tough.

Hymenium dentate-porous towards the thick definite margin, centrally nodulose and prolonged into unequal compressed truncate or laciniate, rarely terete aculei, whitish, centrally yellowish or pale ferruginous.

River Forest. Harper.

RADULUM.

Plants resupinate; hymenium of irregular, subcylindrical obtuse tubercles. Growing on wood, resupinate-effused, often bursting through the bark.

Plant white, then yellowish, border byssine.....*R. orbiculare.*
Plant pallid, border tomentose, reflexed.....*R. pallidum.*

Radulum orbiculare Fr.

In autumn, orbicular, confluent, white then yellowish, the border byssine; tubercles elongated, nearly terete, scattered or fasciculate.

In spring, waxy, glabrous, flesh-color; tubercles shorter and softer. Very variable; 5 to 7.5 cm. broad, quite membranaceous, or above 4 mm. in thickness.

On dead sticks. River Forest. June. Harper.

Radulum pallidum B. and C.

At first orbicular, then confluent and effused, with a narrow reflexed tomentose margin, pallid.

Tubercles terete, short, deformed, scattered or sometimes collected in lines or groups.

On decaying log of *Quercus*. Glencoe. Harper.

PHLEBIA.

Hymenium amphigenous, waxy-soft, smooth, continuous, from the first wrinkled into crests; covered with wrinkles which are crowded, interrupted, persistent, quite entire at the edge, everywhere bearing spores.

Flesh-color or bright red, smooth on both sides...*P. radiata.*
Flesh-color or livid, villous on the under side....*P. merismoides.*

Phlebia radiata Fr.

Red-flesh-color, somewhat round, equal, smooth on both sides, circumference radiate in the form of teeth. Folds straight, radiating in rows.

On bark of dead standing trunk of *Tilia*. Woods, Riverside. October, 1903. Confluent in the fissures of the bark for a distance of many centimeters. The bright cinnabar-colored form, *P. cinnabarina* Schw., was found on the bark of a log of *Quercus* at Glencoe, September, 1903.

Phlebia merismoides Fr.

Effused, flesh-colored then livid, villous and white on the under side, the border orange, strigose. Wrinkles simple, straight, crowded.

Extensively effused on the under side of fallen decaying branches. Riverside. October. Color paler than that of *P. radiata*.

ODONTIA.

Plants resupinate; subiculum of interwoven fibers, bearing crested warts or spines.

Border of subiculum fimbriate.....*O. fimbriata.*
Border of subiculum not fimbriate.....*O. tenuis.*

Odontia fimbriata Pers.

Effused, membranaceous, seceding, pallid, traversed by root-like fibers; the border fibrillose-fimbriate.

Warts minute, in the form of granules, multifid at the apex.

River Forest, at the base of a dead crab or thorn tree. June. Harper. On dead branch of *Ostrya*, Glencoe. September.

Odontia tenuis Pk.

Effused, very thin, tender, dry, pallid, the margin not clearly fimbriate; verrucae minute, subglobose or oblong, scattered or crowded, sometimes entire; mycelium sometimes collected into dingy yellowish branching slender threads.

On decayed wood. Near Chicago. Harper.

CRATERELLUS.

Plants fleshy or membranaceous, smoothish, terrestrial or rarely epixylous, cup-shaped or umbrella-shaped, stipitate; hymenium ribbed or sometimes rugulose. Allied to the Cantharelli.

Craterellus dubius Pk.

Pileus thin, subinfundibuliform or subtubiform, subfibrillose, dark brown or lurid brown, pervious, the margin generally wavy and lobed.

Hymenium dark cinereous and rugose when moist, nearly even and paler when dry.

Stem short, hollow, colored like the hymenium.

Spores broadly ellipsoid or subglobose, 6 to 7.5 x 5 to 6 μ. Pileus 2.5 to 5 cm. broad; plant 2.5 to 7.5 cm. high, stem about 4 mm. thick.

In woods. Frequent. In July and August, 1902, it was very abundant in the woods near Glencoe. Pileus 2.5 to 6 cm. broad at the mouth of the tube.

THELEPHORA.

Plants leathery, erect and stipitate and lateral, or effused-reflexed, or resupinate; hymenium smooth, slightly ribbed or warty; spores sphaeroid, colored, minutely warted or echinulate.

1. Erect, pileus entire or divided into branches..... 2
1. Resupinate-incrusting, or effused-reflexed..... 4
   2. Pileus white or whitish..... 3

2. Pileus brownish-cinereous..... *T. multipartita.*
2. Pileus smoky-yellow..... *T. vialis.*
2. Pileus brownish-purple..... *T. palmata.*
3. Tips of branchlets dilated at the apex..... *T. Schweinitzii.*
3. Tips of branchlets laciniate or bifid..... *T. candida.*
4. Margin of pileus narrowly reflexed..... *T. albido-brunnea*
4. Much branched, branchlets with fimbriate apices..... *T. fimbriata.*

Thelephora multipartita Schw.

Brownish-cinereous, pileus subcoriaceous, subinfundibuliform, many times parted and divided even to the stipe, the laciniae dilated above and more or less incised.

Stipe short, glabrous.

Hymenium nearly even, glabrous, brownish, sometimes paler at the margin.

On the ground in woods. River Forest. Harper. Plants about 2.5 cm. high, the thin flat branches dilated above and multifid.

Thelephora vialis Schw.

Coriaceous, when young somewhat fragile, becoming hard with age, pilei variously shaped, imbricated and dimidiate, and regular or many confluent into one, laciniate-multifid, 2.5 to 5 cm. long or much smaller, often cup-shaped, above agglutinate-fibrillose-plicate, smoky yellow.

Stems separate or concrescent, thick or thin, short or long.

Hymenium plicate-venose, from pallid-yellow to fuliginous.

On the ground in woods. Millers and Glen Ellyn. The plant forms rosettes 6 to 8 cm. in diameter. The spores are pallid-fuliginous, globose but somewhat irregular in outline, 7 to 8 u. in diameter.

Thelephora palmata Scop.

Brownish-purple, pubescent, fetid; pileus soft-coriaceous, very much branched, the branches palmate, flattened, sub-fastigiate, fimbriate and whitish at the apex.

Hymenium even; stipe short, simple.

Woods, Glen Ellyn, Winfield and Glencoe. Plants rusty-brown, the tips of the branches white. Spores very irregular, angled, rough, about 7 x 10 μ.

Thelephora Schweinitzii Pk. (Plate XXII, Fig. 1.)

Caespitose, white or pallid; pileus soft-coriaceous, much branched, the branches flattened, furrowed and somewhat dilated at the apex.

Hymenium even, becoming darker colored. Stems variable in length, often connate or fused into a solid base.

Grassy places in woods, July to September. Common. Often in masses 10 to 15 cm. in diameter. When young, the plants are pure white and quite conspicuous among the decaying grasses and leaves.

Thelephora candida Schw.

Cespitose, soft, white, stem thick, palmately branched, pileoli laciniate, spreading, apex becoming fuscous.

Hymenium definitely inferior, rugose.

Grassy places in open woods. July and August. Stem tough, flattened, branches subterete, fibrous-stuffed, white within; branchlets flattened, laciniate or only bifid at the apex. Spores very variable, subglobose, broadly ellipsoid, ellipsoid-oblong or subpyriform, granular, 6 to 10 x 3 to 6 μ.

Thelephora albido-brunnea Schw.

Spongy-corky, widely effused: pilei at length narrowly reflexed, becoming substipitate, subtomentose, brown.

Hymenium nearly even, white.

Glencoe. August. Harper. Growing about the bases of dead shrubs.

Thelephora fimbriata Schw.

Effused, soft becoming cartilaginous, incrusting, variable in shape, producing long branches, decumbent, the primary terete, the ultimate with fimbriate apices.

Incrusting the stems of *Fragaria*. Riverside. Harper. Identified by Prof. Burt, who states that some of our plants include the form described by Prof. Peck as *T. scoparia*.

STEREUM.

Plants leathery or woody; pileate, central or lateral-stemmed, effused-reflexed or entirely resupinate; free portion of the pileus more or less strigose; hymenium smooth, arising from a compact layer which is separated from the substratum by a floccose or strigose layer of mycelium. Spores continuous, hyaline or olivaceous.

Plants effused-reflexed, coriaceous. 1
Plants resupinate, crustaceous-adnate. 5
1. Pileus whitish or pale-yellow. 2
1. Pileus ochraceous, becoming pale, zonate. . *S. rameale.*
1. Pileus purplish, fuscous or ferruginous. 4
2. Hymenium bright-ochraceous, becoming pale . . . . . *S. ochraceo-flavum.*
2. Hymenium purplish . . . . . *S. purpureum.*
4. Pileus grayish-cinereous, hymenium pallid brick-color. . . . . *S. fasciatum.*
4. Pileus rufous, becoming fuscous, hymenium grayish. . . . . *S. rufum.*
4. Pileus fuscous ferruginous, hymenium ashy-white . . . . . *S. striatum.*
4. Pileus fuscous, becoming pale, hymenium cervine or fuscous . . . . . *S. gausapatum.*
4. Pileus subferruginous, hymenium brownish. *S. spadiceum.*
4. Pileus and hymenium ferruginous. . . . . *S. Curtisii.*
5. Plant white. . . . . *S. acerinum.*
5. Plant grayish, brown or blackish . . . . . *S. frustulosum.*

Stereum rameale Schw.

Specimens collected at River Forest by Harper and Moffatt were named by Prof. Burt as above. Fries, Elench. p. 178, says that he has seen the original specimen of Schweinitz, and is unable to distinguish it from *Stereum hirsutum* (Willd.) Fr.

Stereum ochraceo-flavum Schw.

Coriaceous-membranaceous, thin. Pileus effused-reflexed, strigose-hirsute, white or pale yellow.

Hymenium even, glabrous, bright-ochraceous becoming pale.

On the underside of small fallen branches. Frequent.

Stereum purpureum Huss.

Soft-coriaceous. Pileus effused-reflexed, subimbricate, zonate, villous-tomentose, pallid or whitish.

Hymenium naked, even, glabrous, purplish.

On *Prunus virginiana*, Millers, Ind. The upper surface of the young pileus is pallid, but with age becomes purplish-black, and rarely rugose with a white border. Hymenial surface purple or lilac, often with a white margin. The plants by confluence sometimes encircle small branches.

Stereum fasciatum Schw.

Coriaceous; pilei caespitose, plane, grayish-cinereous, villous, with brown shining zones, the base narrowed and substipitate.

Hymenium even, glabrous, pallid brick-color; spores globose, 5 to 6 or 5 x 6 μ.

On fallen trunks and branches. Common. Surface of the pileus banded with bright zones of various colors, like that of *Polystictus versicolor*. Hymenium sometimes lilac-tinted.

Stereum rufum Fr.

Rufous, becoming fuscous, coriaceo-cartilaginous, erumpent, tuberculiform then somewhat round, marginate, smooth beneath.

Hymenium gray-pruinose, at length bullate-tubercular.

On dead pine, Millers. Not rare. Harper.

Stereum striatum Fr.

Coriaceous; pileus effused-reflexed, undulate, rugose-striate, subtomentose, fuscous-ferruginous, paler and filamentous within.

Hymenium ashy-white, smooth when in full vigor; spores subglobose, 5 to 6 μ.

Thin, wholly adnate or attached by a narrow base, and flabelliform, with intermediate stages.

Near Chicago. Harper.

Stereum gausapatum Fr.

Caespitose-connate, sessile; pilei soft-corky, fibrous-strigose fuscous becoming pale, margin concolorous, entire, undulate-plicate.

Hymenium radiate-rugose, glabrous; spores cylindric-ellipsoid, 10 x 5 μ.

River Forest and Bowmanville. Harper. A resupinate form occurs.

Stereum spadiceum Fr.

Coriaceous. Pilei effused-reflexed, villous, subferruginous; the margin rather obtuse, white.

Hymenium even, smooth, brownish, when fresh bleeding if bruised.

On oak stumps, Glen Ellyn. Pilei about 2.5 cm. in length and breadth, usually imbricated and confluent.

Stereum Curtisii Berk.

At first orbicular, ferruginous, with a paler somewhat byssoid margin, then effused; edge sometimes free on either side.

Hymenium rugose, finely velvety; spores ellipsoid, 5 x 3 to 4 μ.

On fallen branches of *Quercus*. Not rare.

Stereum acerinum Fr.

Crustaceous, adnate, smooth, glabrous, white; spores ellipsoid, 6 x 3 to 4 μ. Forming a thin white crust, generally sterile, surface usually covered with minute particles of lime.

On bark of living *Juniperus virginiana*, woods, Millers, Indiana. June. Harper.

Stereum frustulosum Fr.

Woody, resupinate, tuberculose, crowded as if confluent, then appearing broken into small pieces; border obsoletely marginate; around the edge and underneath dark brown or blackish.

Hymenium convex, cinnamon becoming pallid, pruinose; spores ellipsoid, subacute at both ends, 4 to 5 x 3 to 3.5 μ.

On oak logs. River Forest. Harper. Also on the cut ends of logs, Millers, Indiana.

HYMENOCHAETE.

Pileus coriaceous, membranaceous, form various. Hymenium beset with very minute, rigid, persistent bristles. Spores white or olivaceous.

1. Plants effused-reflexed 2
1. Plants resupinate ..... *H. cervina.*
   2. Pileus and hymenium cinnamon ..... *H. cinnamomea.*
   2. Pileus fuscous-ferruginous, hymenium ochraceous-cinnamon ..... *H. ferruginea.*

Hymenochaete cervina Berk. & Curt.

Wholly resupinate, effused, thin, margin tomentose, soon obliterated.

Hymenium cervine. Setae pallid, clavate, 40 to 50 x 15 to 16 μ. Spores ellipsoid, 5 x 4 μ.

Near Chicago. Harper.

Hymenochaete cinnamomea Pers.

Effused, irregularly confluent, appressed, cinnamon, the under surface and circumference fibrillose-strigose.

Hymenium fleshy, soft, glabrous, naked, concolorous, cracked when dry. Spores elliptical with a minute basal apiculus, pale cinnamon, 11 to 12 x 7 to 8 μ. (Massee.)

On a rotten log, Riverside. June. Harper. Described by Persoon as a *Thelephora*, placed by Fries in the genus *Corticium*, and by Massee in *Coniophora*.

Hymenochaete ferruginea Bull.

Coriaceous-rigid, thin, tough, fuscous-ferruginous; pileus effused-reflexed, densely concentrically sulcate, leprous-villose, becoming smooth.

Hymenium finely velvety, setules few, acuminate-conic, 40 to 60 x 6 to 8 μ. Spores ellipsoid, 6 x 3 to 4 μ. Hymenium when dry ochraceous-cinnamon, inner texture the same color.

Superficially resembling *H. rubiginosa*, from which it differs in the larger spores and the hymenium appearing almost smooth under a lens (Massee).

Fallen logs and branches. Millers. June.

CORTICIUM.

Pileus resupinate or reflexed, the hymenium arising from a thin layer of mycelium which is not separated from the substratum by a strigose or floccose layer, soft, somewhat waxy, often cracking when dried. Spores sessile, not septate.

1. Circumference marginate, reflexed 3
1. Circumference immarginate, adnate 4
1. Plants waxy-agglutinate, margin pubescent or naked 5
1. Plants incrusting-tuberculose, whitish or pallid, border indeterminate 2
   2. Continuous when dry; on the ground ..... *C. galactinum.*
   2. Much cracked when dry; on charred wood ..... *C. pallescens.*
   2. Collapsing when dry; incrusting various substances ..... *C. sebaceum.*
3. Hymenium cervine ..... *C. Oakesii,*
3. Hymenium sanguineous ..... *C. salicinum.*
   4. Hymenium snow-white ..... *C. arachnoideum*
   4. Hymenium dirty-white ..... *C. vellereum.*
   4. Hymenium ochraceous or olivaceous ..... *C. filamentosum.*
5. Hymenium lilac or brick-color ..... *C. jonoides.*
5. Hymenium bright-ochraceous ..... *C. colliculosum.*

Corticium galactinum Fr.

Resupinate, broadly effused, incrusting, colliculose, glabrous, whitish, circumference indeterminate.

On the ground, border of ditches. It consists of a broad, indeterminately effused crust, soft when growing but hard and continuous when dry.

Near Chicago. Harper.

Corticium pallescens Schw.

Broadly effused, agglutinate, in little cartilaginous elevations, hard.

Hymenium spuriously papillose, cracked, white, becoming pallid; spores globose, 7 to 8 μ. Broadly effused, indeterminate, thick, much cracked when dry, pallid with a tinge of red here and there. Collected by Schweinitz on charred trunks.

Near Chicago. Harper.

Corticium sebaceum Pers.

Effused, flaxy-waxy, hardening, incrusting, tuberculose or stalactitious, whitish with a similar border.

Hymenium collapsing, flocculose-pruinose.

Incrusting various substances. Variable in form, white, the border not fringed or pencillate.

River Forest, July, 1902. It is *Sebacina incrustans* Tulasne.

Corticium Oakesii B. & C.

At first pezizaeform with the margin erect, inflexed, white, tomentose, at length confluent.

Hymenium pale fawn-color. Spores oblong-ellipsoid, 25 x 14 μ.

On bark of *Ostrya*. Common. According to Fries, this species does not differ from the European *C. amorphum*, but Cooke insists that it is distinct on account of its more hairy pileus, darker disk and spores not subglobose but oblong-ellipsoid.

Corticium salicinum Fr.

Coriaceous, soft, rigid when dry, affixed by the center, the margin everywhere reflexed, white villous externally.

Hymenium persistently sanguineous, when dry contiguous. Spores cylindric-ellipsoid, curved, 14 to 16 x 5 to 6 μ.

On dead branches of *Salix*. Millers. August. Harper.

Corticium arachnoideum Berk.

Thin, effused, pallid, immarginate, fibrillose or subfloccose beneath, circumference fimbriate with white fibrils.

On rotten wood. Near Chicago. Harper.

Corticium vellereum Ell. & Crag.

Dirty-white, texture loose, floccose, margin byssoid.

Spores abundant, globose, 4 to 5 μ. in diameter, borne on short, stout, subclavate basidia.

On a decorticated log of *Tilia americana*, River Forest. July. It also occurs on *Hicoria*.

Corticium filamentosum B. and C.

Effused, membranaceous, border and underside soft-tomentose, fibrillose, pallid, separable from the substratum.

Hymenium pulverulent, ochraceous or somewhat olivaceous, minutely cracked when dry.

On old bark. Near Chicago. Harper.

Corticium jonoides Bres.

Waxy, adherent, suborbicular, broadly effused, border pubescent, soon naked, lilac-amethystine or isabelline brick-color, expallent, canescent.

Hymenium velutine from the more or less prominent basidia, rimose when old. Spores obovate, hyaline, 10 to 14 x 7 to 9 μ.

Near Chicago. Harper.

Corticium colliculosum B. & C.

Strongly adnate, mycelium spongy, white; hymenium bright ochraceous, papillate and granulate, glabrous, cracked. Spores oblong-ellipsoid, 10 x 5 μ.

Near Chicago. Harper.

Corticium albulum Atk. & Burt, and *C. subceraceum* Burt, species not yet published, have been identified in collections sent to Prof. Burt.

PENIOPHORA.

Resupinate, or with the margin free; hymenium even, furnished with projecting, fusiform, colorless cystidia. Spores colorless.

1.	Margin reflexed	*P. neglecta.*
1.	Margin not reflexed	2
2.	Margin adpressed, determinate	*P. cinerea.*
2.	Margin free or indeterminate	3
3.	Plant membranaceous	4
3.	Plant crustose or waxy	5
4.	Pallid	*P. filamentosa.*
4.	Flesh-color or livid	*P. laevis.*
5.	Hymenium red or orange	*P. incarnata.*
5.	Hymenium white or cream color	*P. Allescheri.*

Peniophora neglecta Pk.

Pileus effused-reflexed, thin, coriaceous, often laterally confluent, strigose-hairy, concentrically sulcate, grayish or yellowish-gray.

Hymenium pallid becoming purplish, minutely setulose, the setae short, colorless, rough, stout, 50 to 75 μ. long; spores subelliptical, 12.5 x 7.5 μ.

On dead branches of *Ulmus*. Austin. Determined by Prof. Harper.

Peniophora cinerea Fr.

Lurid, waxy, becoming rigid, confluent, agglutinated, circumference similar.

Hymenium sprinkled with very thin cinereous pruina. Spores oblong or elongated, cylindrical, curved, 3 to 5 x 1 μ. (K.)

On *Ribes rotundifolia*. River Forest. June. Harper.

Peniophora filamentosa B. & C.

Effused, membranaceous, separable from the matrix; border and underside soft-tomentose, fibrillose, pallid.

Hymenium pulverulent, ochraceous or somewhat olivaceous, minutely cracked when dry.

Subiculum of soft tomentose threads, on which the hymenium forms a thin stratum.

On dead sticks, Riverside. October. Harper.

Peniophora laevis Fr.

Effused, membranaceous, separating, villous beneath, circumference flaxy.

Hymenium even, smooth, somewhat flesh-color or livid. Spores 12 x 8 to 10 μ.

On bark of *Quercus* and on dead sticks. Near Chicago. Harper.

Peniophora incarnata Fr.

Waxy, becoming rigid, agglutinated, indeterminate, circumference radiate.

Hymenium persistently bright-colored (red or orange), sprinkled with very thin, somewhat flesh-colored pruina. Spores ellipsoid or oblong-ellipsoid, 9 to 12 x 5 μ.

On decaying branches. River Forest. June.

Peniophora Allescheri Bres.

Broadly effused, waxy-membranaceous, adherent, at length seceding, forming a white then cream-colored crust, margin tomentose-fibrillose.

Hymenium velvety, subtuberculose, collapsing when dry, smooth, cracking into polygonal areas. Basidia clavate, 30 to 45 x 6 to 9 μ., spores very variable in size, oblong, unilateral or depressed on both sides, 7 to 18 x $3\frac{1}{2}$ to $6\frac{1}{2}$ μ.

Similar in appearance to *Corticium lacteum* Fr., but clearly distinct in the character of the spores and in the presence of cystidia.

On log of *Tilia americana*. River Forest. July. Harper.

Peniophora heterocystidia Burt, found by Prof. Harper on *Amelanchier canadensis* at Glencoe, has been identified by Prof. Burt. The description has not yet been published.

CONIOPHORA.

Plants membranaceous, resupinate; hymenium fleshy or waxy, but at maturity dusted with the smooth, colored spores; spore-membrane yellowish-brown.

Hymenium ochraceous, pulverulent ..... *C. arida.*
Hymenium tawny-brown, waxy..... *C. suffocata.*

Coniophora arida Fr.

Membranaceous, very thin, inseparable from the matrix, broadly effused, margin fibrillose, whitish.

Hymenium continuous, even, dingy-sulphur or ochraceous, pulverulent, becoming brownish. Spores ochraceous, ellipsoid, with a minute apiculus at the base, 11 to 12 x 6 to 7 μ.

On bark of *Prunus,* Riverside. October, 1903. Harper.

Coniophora suffocata (Pk.) Massee.

Effused, indeterminate; subiculum whitish or pale-tawny, composed of intricate webby filaments.

Hymenium tawny-brown, of a smooth waxy appearance when moist, dusted with the spores and more or less rimose when dry, revealing the paler subiculum through the chinks.

Spores elliptical, colored, 10 x 7.5 μ.

On charred sticks in pine woods. Millers, Indiana. November. Harper. Identified by Prof. Burt.

HYPOCHNUS.

Resupinate, floccose, collapsing or mold-like; basidia four-spored on long lax hyphae, with two to four (rarely six) sterigmata.

Hypochnus spongiosus Schw.

Soft, becoming hard, umber-purple, hymenium powdery, branched. The apices of the branches that proceed from the hymenium are pilose.

On dead sticks in damp places. Millers. Harper. Professor Burt, to whom specimens were sent for identification, says that it is probably the above species, but that he has not seen the original Schweinitzian specimen.

CLAVARIA.

Plants fleshy, branched or simple, branches typically terete, some simple forms clavate.

Branched 1
Simple 6
1. Spores white or with a slight yellowish tint 2
1. Spores creamy-yellow 5
2. Plant yellow 3
2. Plant cinereous ..... *C. cinerea.*
2. Plant pallid then alutaceous ..... *C. pyxidata.*
2. Plant white 4
3. Stem thick, white, branches yellow, fastigiate ..... *C. flava.*
3. Stem slender, yellow, branches yellow, crescent-shaped ..... *C. muscoides.*
4. Plant tough, branchlets crested, incised ..... *C. cristata.*

4. Plant fragile, branchlets even, entire ..... *C. Kunzei.*
   5. Plant pale yellowish, trunk thick, branchlets appressed ..... *C. stricta.*
   5. Plant alutaceous, trunk slender, branchlets divaricate ..... *C. crispula.*
6. Clubs pure white ..... *C. fragilis.*
6. Clubs yellow then rufescent ..... *C. pistillaris.*

Clavaria cinerea Bull.

Cinereous, fragile, stuffed; trunk somewhat thick, short, very much branched. Branches and branchlets thickened, irregularly shaped, somewhat wrinkled, rather obtuse.

Height 2.5 to 7.5 cm.; spores irregular, ellipsoid-sphaeroid, 8 to 10 x 6 μ.

Gregarious or in tufts on the ground in woods, Glen Ellyn. July.

Clavaria pyxidata Pers.

Pallid then alutaceous and subrufescent; trunk slender, glabrous, branched, branches and branchlets all club-shaped at the apex, the cupules proliferous-radiate at the margin. Plants 7 to 12 cm. high and broad.

Spores white, 4 x 3 μ. (Massee.)

On rotten logs, Glencoe. June. Taste acrid.

Clavaria flava Schaeff. (Plate XXIII.)

Fragile, trunk thick, fleshy, white, very much branched; the branches terete, even, fastigiate, obtuse, yellow.

Plant 5 to 10 cm. high, the tufts as broad as high; spores pale or with a yellowish tint.

Ground in woods, Highland Park. August. Dr. Watson. Primary branches thick, terete or compressed, pale yellow; ultimate branchlets terete, even, dentate at the apex, pale orange.

Clavaria muscoides L.

A little tough, somewhat delicate, yellow, two or three times forked, the stipe slender; branches crescent-shaped, acute.

Plants 3.5 to 5 cm. high.

Mossy ground under conifers, Millers. In shaded ravines, Glencoe. Among leaves in damp woods, Glen Ellyn. Clubs slender, simple or sparingly branched above, terete, egg-yellow or lemon-yellow, paler and tapering below, solid or stuffed, tips of the branches slightly darker, obtuse; spores whitish, smooth, globose, 5 to 7 μ.

Clavaria cristata Pers. (Plate XXIV.)

Tough, even, stuffed, white, the branches dilated upwards, acutely incised, crested.

Plant 2.5 to 5 cm. high.

Ground in woods, Glencoe. November. Wyrick. Color dingy gray; spores white, subglobose, 8 to 9 μ. Karsten describes the spores of this species as "angulate– or ellipsoid-sphaeroid, hyaline, 8 μ." Massee as "ochraceous, pointed, 10 x 8 μ."

Clavaria Kunzei Fr.

Somewhat fragile, cespitose from a slender base, very much branched, pure white; the branches elongated, crowded, repeatedly forked, fastigiate, even, equal, compressed at the axils.

Plant 3.5 to 5 cm. high.

On the ground in damp woods, Glen Ellyn. August. Plants shining white; spores white, smooth, subglobose, 3 to 4 μ.

Clavaria stricta Pers.

Very much branched, pale yellowish, brownish when rubbed, the trunk rather thick; branches and branchlets straight, rather even, crowded and appressed, acute.

Plant 5 to 7.5 cm. high; spores creamy-yellow, 4 x 6 μ.

On old stumps and partly buried decayed wood in open woods, Glen Ellyn.

Clavaria crispula Fr.

Very much branched, alutaceous then ochraceous, the trunk slender; branches flexuous, multifid, the branchlets divaricate.

Rooting at the base by long white fibrils. Plant 2.5 to 5 cm. high. Spores creamy-yellow, 3 to 5 μ. (W. G. S.)

In moist woods, the long slender white rootlets usually growing upon or around decaying sticks or twigs. The spores in our plants are creamy-yellow, 6 to 7 x 10 μ. In other respects the specimens agree with the above description.

Clavaria fragilis Holmsk.

Fasciculate, very fragile, white below, tapering downward; clubs hollow, a little obtuse, variable.

On the ground in a shaded ravine, Glencoe. August. A very beautiful species. Stems clustered, terete, tapering downward and tapering upward to a somewhat obtuse apex; 2.5 to 10 cm. high, pure white, very fragile; spores minute, subellipsoid, white, 2½ to 3 μ.

Clavaria pistillaris L. Plate XXII, Fig. 2.

Simple, large, fleshy, stuffed, obovate-clavate, obtuse, yellow then rufescent.

Plants attaining a height of 15 cm. and a thickness of 2.5 cm. at the summit; spores white, 10 x 5 μ.

Wooded ravines north of Chicago. Bates, Bertolet.

CALOCERA.

Plants cylindrical or awl-shaped, terete, simple or branched, gelatinous, drying horny; without a distinct stem.

Plant 6 mm. or less in height, branchlets obtuse. . . . . *C. palmata*
Plant 12 mm. or more in height, branchlets acute. . . . . *C. cornea*

Calocera palmata Schum.

Branched, tremellose-tough, orange-yellow, compressed, dilated upward, divided; the branchlets subterete, divaricate, obtuse.

On decayed fallen branches of *Rhus glabra*, woods, Glen Ellyn. August. On decaying wood of *Quercus*, River Forest. June. Plants 12 to 16 mm. high, simple, slender and subulate, or divaricately branched near the base, the branches occasionally divided near the apex; spores somewhat hyaline, curved, 9 to 10 x 6 μ.

Calocera cornea Batsch.

Cespitose, rooting, even, viscid, yellow-orange; clubs short, subulate, connate at the base.

On decaying pine logs, Millers. Growing in lines out of the cracks in the wood, the bases of the plants fused together at the base, so that a strip several cm. in length can be stripped from a crevice in the wood. The individual plants are 5 to 6 mm. high.

GUEPINIA.

Cartilaginous-gelatinous, versiform, the two surfaces diverse in structure; substipitate; hymenium unilateral; spores curved.

Guepinia spathularia Schw.

Nearly erect, stipitate, spathulate, the stipe and upper side cinereous-pubescent.

Hymenium plicate, orange-yellow; spores curved, apiculate, three-septate, 10 to 12 μ.

Growing in linear series in cracks of a decaying log of *Tilia*. Woods, Lombard. September.

EXIDIA.

Blackish, cup-shaped, truncate or effused, smooth or slightly plicate, papillate; basidiospores 2–4 celled on germination, bearing curved sporidiola.

Exidia glandulosa Bull.

Effused, nearly plane, thick, undulate, becoming black, spiculose with conic papillae, the underside cinereous and somewhat tomentose.

Spores oblong, curved, 12 to 14 x 5 μ.

Crevices of bark of decaying logs of *Quercus*. Riverside. Plants pellucid when growing on the underside of the logs where not exposed to sunlight; spores elliptic-reniform, 10 to 12 x 6 μ.

TREMELLA.

Yellowish or whitish with brain-like convolutions, homogeneous; basidiospores, sporidiola and conidia when present globose or ovoid.

Plant white..... *T. fuciformis*
Plant cinnamon-flesh-color..... *T. foliacea*

Tremella fuciformis Berk.

White, cespitose, repeatedly lobed, or branched with lobes, the ultimate ones excepted, broadly fan-shaped. 2.5 cm. or more high.

This plant has occurred several successive seasons in July and August, on the ground upon a dry hilltop in open woods, Glen Ellyn. It forms sessile tuberculous masses 7.5 to 12 cm. in diameter and 2.5 to 5 cm. in height, wholly composed of stout gelatinous processes, branched two or three times, the lobes or processes compressed and somewhat hollow; spores white, ovoid, inequilateral, 6 to 9 x 4 to 6 μ.

Tremella foliacea Pers.

Cinnamon-flesh-color, cespitose, even, undulated, plicate at the base; surface finely granulated, the granulations pale.

Clusters 1 to 2.5 cm. broad, soft and watery, leaving little residue when dried.

On dead stumps, Glen Ellyn. September to November.

Tremella mycetophila Peck, N. Y. Mus. Rep. 28; 53, has been referred by Prof. Burt to the genus *Exobasidium*. See Bull. Torr. Bot. Club 28; 285.

The species has been found several times at Glen Ellyn, parasitic on decaying stems and pilei of *Collybia dryophila*.

REFERENCES TO LITERATURE FOR THE DETERMINATION OF SPECIES

The following are a few of the works that will be found most useful in the study of our species:

Amanita. Peck, Rep't N. Y. Mus. **36**:41, **48**:133; Smith, Rhodora **1**:161; Lloyd, Myc. Notes, Nov. 1899; Saccardo, Sylloge, **5**:993, **11**:69, **14**:150, **16**:1 and 1110; Stevenson, Hymenomycetes Europaei **1**:304; Atkinson, Studies of American Fungi, 52; Carter, Toadstool Poisoning and its Treatment, in McIlvane, Am. Fungi, ed. **2**:621.

Amanitopsis. Peck, Rep. N. Y. Mus. **33**:38; Lloyd, The Volvae, 1898; Morgan, Journ. Myc. **3**:25; Sacc. Syll. **5**:20, **14**:64, **16**:2 and 1110; Stev. Hym. Eur. **1**:11.

Lepiota. Webster, Bull. Bost. Myc. Cl. no. 4. 1897; Peck, Rep. N. Y. Mus. **35**:150; Stev. Hym. Eur. **1**:12; Morgan, Journ. Myc. **12**:154, 195, 242; **13**:1.

Armillaria. Peck, Rep. N. Y. Mus. **43**:40, **44**:38; Sacc. Syll. **5**:73, **11**:7, **14**:70, **16**:17; Stev. Hym. Eur. **1**:28.

Tricholoma. Bull. Bost. Myc. Cl. no. 5. 1897; Peck, Rep. N. Y. Mus. **44**:38; Stev. Hym. Eur. **1**:33.

Clitocybe. Sacc. Syll. **5**:141, **9**:18, **11**:13, **14**:74, **16**:23 and 1110; Stev. Hym. Eur. **1**:68; Morg. Journ. Cin. Soc. Nat. Hist. **5**:66.

Collybia. Peck, Rep. N. Y. Mus. **49**:32; Lloyd, Collybias of Cincinnati, 1900; Morg. Journ. Cin. Soc. Nat. Hist. **6**:173; Sacc. Syll. **5**:200, **9**:27, **11**:17, **14**:77; Stev. Hym. Eur. **1**:96.

Mycena. Sacc. Syll. **5**:251, **9**:34, **11**:20, **14**:82, **16**:26; Stev. Hym. Eur. **1**:120; Peck, Rep. N. Y. Mus. **23**:80.

Omphalia. Peck, Rep. N. Y. Mus. **45**:32; Sacc. Syll. **5**:308, **9**:41, **11**:23, **14**:84, **16**:31; Stev. Hym. Eur. **1**:150.

Pleurotus. Bull. Bost. Myc. Cl. no. 8. Nov. 1898; Peck, Rep. N. Y. Mus. **39**:58; Sacc. Syll. **5**:339, **9**:45, **11**:24, **16**:36 and 1111; Stev. Hym. Eur. **1**:165.

Hygrophorus. Bull. Bost. Myc. Cl. no. 5. 1897; Earle, Torreya, **2**:53 and 73 (Key to N. Am. species); Sacc. Syll. **5**:387, **9**:52, **11**:27, **14**:91, **16**:39 and 1111; Stev. Hym, Eur. **2**:70.

Lactarius. Webster, Bull. Bost. Myc. Cl. no. 3. 1897; Peck, Rep. N. Y. Mus. **38**:111; Sacc. Syll. **5**:423, **9**:56, **14**:94, **16**:43; Stev. Hym. Eur. **2**:92.

Russula. Sacc. Syll. **5**:453, **9**:59, **11**:29, **14**:96, **16**:46 and 1111; Massee, Brit. Fung. Fl. **3**:37; Stev. Hym. Eur. **2**:113; McIlv. Am. Fung. 185; Atk. Studies of Am. Fung. 185; Earle, Torreya **2**:101, 117 (Key to N. Am. sp.)

Cantharellus. Peck, Bull. N. Y. Mus. **1**:34; Sacc. Syll. **5**:482, **9**:63, **16**:48; Stev. Hym. Eur. **2**:131.

Marasmius. Sacc. Syll. **5**:503, **9**:65, **11**:32, **14**:101, **16**:54; Stev. Hym. Eur. **2**:139; Morg. Journ. Cin. Soc. Nat. Hist. **6**:189; Morg. Journ. Myc. **11**:201, 233, **12**:1, 92, 159; Peck, Rep. N. Y. Mus. **23**:124.

Lentinus. Sacc. Syll. **5**:571, **9**:71, **11**:39, **14**:117; Stev. Hym. Eur. **2**:153; Torreya, **3**:35.

Panus. Forster, Journ. Myc. **4**:21; Sacc. Syll. **5**:614, **14**:122, **16**:66; Stev. Hym. Eur. **2**:158.

Lenzites. Sacc. Syll. **5**:637, **16**:68; Webster, Bull. Bost. Myc. Cl. 13 and 14. 1900; Peck, Rep. N. Y. Mus. **30**:71; Stev. Hym. Eur. **2**:163.

Schizophyllum. Atk. Stud. Am. Fung. 136; Sacc. Syll. **5**:654; Stev. Hym. Eur. **2**:162.

Volvaria. Sacc. Syll. **5**:656, **11**:43, **14**:124, **16**:70; Lloyd, Volvae of U. S. 1898; Stev. Hym. Eur. **1**:182.

Pluteus. Peck, Rep. N. Y. Mus. **38**:133; Sacc. Syll. **5**:665, **14**:125, **16**:72; Stev. Hym. Eur. **1**:187.

Entoloma. Sacc. Syll. **5**:679, **9**:83, **14**:126, **16**:76; Stev. Hym. Eur. **1**:191.

Clitopilus. Peck, Rep. N. Y. Mus. **42**:39; Sacc. Syll. **5**:698, **14**:128, **16**:77; Stev. Hym. Eur. **1**:202.

Leptonia. Sacc. Syll. **6**:706, **9**:87, **11**:46, **14**:128, **16**:79; Stev. Hym. Eur. **1**:206.

Claudopus. Peck, Rep. N. Y. Mus. **39**:67; Sacc. Syll. **5**:733; Stev. Hym. Eur. **1**:220.

Pholiota. Morg. Journ. Cin. Soc. Nat. Hist. **6**:101; Sacc. Syll. **5**:736, **9**:90, **11**:48, **14**:131, **16**:83; Stev. Hym. Eur. **1**:222.

Inocybe. Morg. Journ. Cin. Soc. Nat. Hist. **6**:104; Sacc. Syll. **5**:762, **9**:95, **11**:50, **14**:132, **16**:87; Stev. Hym. Eur. **1**:238; Massee, Ann. Bot. **18**:461.

Hebeloma. Sacc. Syll. **5**:791, **14**:134, **16**:91; Stev. Hym. Eur. **1**:254; Peck, Rep. N. Y. Mus. **23**:95.

Flammula. Peck, Rep. N. Y. Mus. **50**:133; Sacc. Syll. **5**:809, **9**:104, **11**:56, **14**:136, **16**:94; Stev. Hym. Eur. **1**:264.

Naucoria. Sacc. Syll. **5**:828, **9**:109, **16**:97 and 1114; Stev. Hym. Eur. **1**:275; Peck, Rep. N. Y. Mus. **23**:91.

Galera. Peck, Rep. N. Y. Mus. **46**:61; Sacc. Syll. **5**:860, **9**:113, **11**:60, **14**:141, **16**:103; Stev. Hym. Eur. **1**:290.

Crepidotus. Peck, Rep. N. Y. Mus. **39**:69; Sacc. Syll. **5**:876, **9**:115, **11**:62, **14**:144, **16**:108; Stev. Hym. Eur. **1**:300.

Cortinarius. Sacc. Syll. **5**:889, **9**:117, **11**:64, **14**:145, **16**:110, 1114; Stev. Hym. Eur. **2**:1; Peck, Rep. N. Y. Mus. **23**:105; Earle, Torreya, **2**:169, 180.

Paxillus. Peck, Bull. N. Y. Mus. **1**[2]:29; Sacc. Syll. **5**:983, **9**:135, Stev. Hym. Eur. **2**:65.

Agaricus. Lloyd, The Genus Psalliota, 1899; Peck, Rep. N. Y. Mus. **36**:41; Sacc. Syll. **5**:993, **11**:69, **14**:150, **16**:113; Stev. Hym. Eur. **1**:304.

Stropharia. Sacc. Syll. **5**:1012, **14**:151, **16**:119; Stev. Hym. Eur. **1**:309, Morg. Journ. Cin. Soc. Nat. Hist. **6**:112; Morg. Journ. Myc. **14**:67.

Hypholoma. Peck, Rep. N. Y. Mus. **49**:61; Earle, Torreya, **2**:22; Sacc. Syll. **5**:1027, **9**:139, **11**:71, **14**:152, **16**:121; Stev. Hym. Eur. **1**:316; Morg. Journ. Cin. Soc. Nat. Hist. **6**:113; Morg. Journ. Myc. **14**:27, 64.

Psilocybe. Sacc. Syll. **5**:1043, **9**:140, **14**:154, **16**:125; Stev. Hym. Eur. **1**:324; Morg. Journ. Myc. **13**:246.

Psathyra. Morgan, Journ. Myc. **13**:147.

Coprinus. Massee, Ann. Bot. **10**:123; Bull. Bost. Myc. Cl. 15 and 16. Je. 1901; Sacc. Syll. **5**:1078, **9**:144, **11**:75, **14**:156, **16**:128.

Panaeolus. Sacc. Syll. **5**:1118, **14**:161, **16**:134; Stev. Hym. Eur. **1**:338; Peck, Rep. N. Y. Mus. **23**:100; Morgan, Journ. Myc. **13**:59.

Anellaria. Sacc. Syll. **5**:1125.

Psathyrella. Peck, Rep. N. Y. Mus. **23**:102; Sacc. Syll. **5**:1126, **9**:149, **11**:77, **14**:162; Stev. Hym. Eur. **1**:342; Morgan, Journ. Myc. **13**:53.

Gomphidius. Stev. Hym. Eur. **2**:63.

Boletus. Peck, Bull. N. Y. Mus. **8**:80; Underwood, Cont. Dep. Bot. Columb. Univ. no. 176.

Strobilomyces. Peck, Bull. N. Y. Mus. **8**:158; Sacc. Syll. **6**:49; Underwood, Cont. Dep. Bot. Columb. Univ. no. **176**:37.

Boletinus. Peck, Bull. N. Y. Mus. **8**:74; Underwood, Cont. Dep. Bot. Columb. Univ. no. **176**:35.

Fistulina. Atk. Studies of Am. Fung. 186.

Polyporus. Sacc. Syll. **6**:55, **11**:82, **14**:171, **16**:143; Stev. Hym. Eur. **2**:183; Morgan, Journ. Cin. Soc. Nat. Hist. **8**:91.

Fomes. Sacc. Syll. **6**:150, **11**:88, **14**:180, **16**:151; Stev. Hym. Eur. **2**:183 (sub Polyporus); Morgan, Journ. Cin. Soc. Nat. Hist. **8**:103 (sub Polyporus.)

Polystictus. Sacc. Syll. **6**:208, **9**:181, **14**:185; Stev. Hym. Eur. **2**:183 (sub Polyporus); Morgan, Journ. Cin. Soc. Nat. Hist. **8**:109 (sub Polyporus); Lloyd, Mycological Notes, Feb. 1908; Atkinson, Studies of Am. Fung. 191.

Poria. Sacc. Syll. **6**:292, **9**:189, **11**:93, **14**:188, **16**:159; Stev. Hym. Eur. **2**:211 (sub Polyporus); Morgan, Journ. Cin. Soc. Nat. Hist. **8**:168 (sub Polyporus.)

Trametes. Webster, Bull. Bost. Myc. Cl. 13, 14 Je. 1900; Sacc. Syll. **6**:334; Stev. Hym. Eur. **2**:221.

Daedalea. Webster, Bull. Bost. Myc. Cl. 13, 14, Je. 1900; Sacc. Syll. **6**:370, **11**:100.

Favolus. Sacc. Syll. **6**:390; Peck, Rep. N. Y. Mus. **26**:90.

Merulius. Sacc. Syll. **6**:411, **11**:104; Stev. Hym. Eur. **2**:227.

Solenia. Sacc. Syll. **6**:424, **9**:207, **16**:72; Stev. Hym. Eur. **2**:232.

Hydnum. Sacc. Syll. **6**:430, **9**:208, **11**:106, **14**:201, **16**:174; Stev. Hym. Eur. **2**:233; Morgan, Journ. Cin. Soc. Nat. Hist. **10**:7.

Irpex. Sacc. Syll. **6**:482, **9**:213; Stev. Hym. Eur. **2**:248; Morgan, Journ. Cin. Soc. Nat. Hist. **10**:14.

Radulum. Sacc. Syll. **6**:493, **11**:111; Stev. Hym. Eur. **2**:251; Morgan, Journ. Cin. Soc. Nat. Hist. **10**:16.

Odontia. Sacc. Syll. **6**:506, **11**:113, **14**:208, **16**:180; Stev. Hym. Eur. **2**:256.

Craterellus. Peck, Bull. N. Y. Mus. 1^2:44; Sacc. Syll. **6**:514, **16**:181; Massee, Journ. Linn. Soc. Bot. **25**:107, **27**:95.

Thelephora. Sacc. Syll. **6**:521, **9**:220, **11**:115, **14**:212, **16**:182; Stev. Hym. Eur. **2**:161.

Stereum. Massee, Journ. Linn. Soc. Bot. **27**:158; Sacc. Syll. **6**:551, **9**:222, **11**:119, **16**:186; Stev. Hym. Eur. **2**:267.

Hymenochaete. Massee, Journ. Linn. Soc. Bot. **27**:95; Sacc. Syll. **6**:588, **9**:227, **11**:122, **16**:188.

Corticium. Massee, Journ. Linn. Soc. Bot. **27**:118; Sacc. Syll. **6**:603, **9**:230, **11**:124, **14**:219, **16**:189; Stev. Hym. Eur. **2**:272.

Peniophora. Massee, Journ. Linn. Soc. Bot. **25**:140; Sacc. Syll. **6**:640; **9**:237, **11**:128; **14**:223.

Coniophora. Massee, Journ. Linn. Soc. Bot. **25**:128; Sacc. Syll. **6**:647, **11**:129, **14**:224.

Hypochnus. Sacc. Syll. **6**:653, **11**:130, **14**:225; Stev. Hym. Eur. **2**:283.

Clavaria. Sacc. Syll. **6**:692, **9**:247, **11**:134, **14**:236, **16**:203; Stev. Hym. Eur. **2**:290; Morg. Journ. Cin. Soc. Nat. Hist. **11**:86; McIlvane, Am. Fung. Ed. **2**:513.

Calocera. Sacc. Syll. **6**:732; Stev. Hym. Eur. **2**:301.

Guepinia. Morg. Journ. Cin. Soc. Nat. Hist. **11**:95.

Exidia. Sacc. Syll. **6**:772; Stev. Hym. Eur. **2**:313.

Tremella. Sacc. Syll. **6**:780; **9**:258; Stev. Hym. Eur. **2**:309; Morgan, Journ. Cin. Soc. Nat. Hist. **11**:91.

Attention is called to the following publications:

Mycological Bulletin, by W. A. Kellerman. A little monthly magazine, March, 1903 to March, 1908. Many species are figured from photographs by the editor, and described in untechnical terms.

Mycological Notes, by C. G. Lloyd, 1898 to ——. Mr. Lloyd, a recognized authority on puffballs, has taken up the comparative study of European and American woody fungi. Some of the numbers of the "Notes" for 1908 contain figures and descriptions of members of this group.

Peck, Charles H. Report of the State Botanist of New York, 1895, and Memoir of New York State Museum No. 4, Vol. 3, contain descriptions and figures of the edible species found in New York.

Atkinson, George F. Studies of American Fungi, 1900. This was the first successful attempt to treat the more conspicuous American fungi in a popular yet truly scientific manner. It contains good keys to the families and genera, and illustrations of many species.

Hard, M. E. Mushrooms, Edible and Otherwise, 1908. Contains descriptions of about six hundred species of the United States, with five hundred half-tone illustrations from photographs by the author and other mycologists. The latest and best book for the amateur student.

INDEX

Names of Families in CAPITALS, of Genera in SMALL CAPITALS, of Species in lower case, of Synonyms and genera or species mentioned but not described, in *italics*.

	Page
abortivus (Clitopilus)	74
abortivus (Ployporus)	116
abrupta (Amanita)	25
acerinum (Stereum)	136
acervata (Collybia)	40
acicula (Mycena)	44
acutesquamosa (Lepiota)	28
adiposa (Pholiota)	79
adnata (Amanitopsis)	26
adusta (Russula)	58
adustum (Hydnum)	127
adustus Polyporus)	115
affinis (Boletus)	102
AGARICACEAE	23
AGARICUS	89
albido-brunnea (Thelephora)	134
albissima (Clitocybe)	34
albulum (Corticium)	139
album (Tricholoma)	33
alcalina (Mycena)	43
alcalinolens (Collybia)	41
Allescheri (Peniophora)	140
alutacea (Russula)	61
alveolaris (Favolus)	124
AMANITA	23
AMANITOPSIS	25
ambiguus (Irpex)	130
americana (Lepiota)	30
americanus (Boletus)	104
amethystina (Clitocybe)	37
amorphum (Corticium)	138
ANELLARIA	100
anomala (Solenia)	126
appendiculatum (Hypholoma)	93
appendiculatum (Hypholoma)	94
applanatus (Crepidotus)	86
applanatus (Fomes) Pl. XI	108
applicatus (Pleurotus)	50
arachnoideum (Corticium)	138
arcularius (Polyporus)	112
arida (Coniophora)	141
armeniaca (Poria)	120
ARMILLARIA	31
asprella (Leptonia)	75
asterospora (Inocybe)	80
atomata (Psathyrella)	100
atramentarius (Coprinus)	96
atrocaeruleus (Pleurotus)	50
atropurpurea (Russula)	60
attenuata (Poria)	121
aurantiacum (Hydnum)	127
aurantiacus (Cantharellus) Pl. VII	62
auricomum (Ozonium)	97
badius (Fomes)	109
Berkeleyi (Polyporus)	113
betulina (Lenzites)	69
biformis (Polystictus)	118
BOLETINUS	106
BOLETUS	101
bombycina (Volvaria)	71
brumalis (Polyporus) Pl. XII	112
butyracea (Collybia)	41
byssisedus (Claudopus)	77
caepestipes (Lepiota)	30
caerulescens (Cortinarius)	88
caespitosus (Clitopilus)	75
CALOCERA	143
calopus (Marasmius)	65
campanella (Omphalia)	45
campanulatus (Marasmius)	65
campestris (Agaricus)	90
candida (Solenia)	125
candida (Thelephora)	134
candidissima (Poria)	121
Candolleanum (Hypholoma)	93
Candolleanum (Hypholoma)	93
CANTHARELLUS	62
cantharellus (Hygrophorus)	51
caput-Ursi (Hydnum) Pl. XIX	128
carneus (Fomes)	107
castaneus (Boletus)	105
ceraceus (Hygrophorus)	52
cerussata (Clitocybe)	34
cerussata (Clitocybe)	34
cervina (Hymenochaete)	136
cervinus (Pluteus)	72
chioneus (Polyporus)	116
chriscomum (Hydnum)	129
chromapes (Boletus)	104
chrysenteron (Boletus)	103
cibarius (Cantharellus)	62
cinerea (Clavaria)	142
cinerea (Peniophora)	139
cinnabarina (Phlebia)	131
cinnabarinus (Polystictus)	118
cinnamomea (Hymenochaete)	137
cinnamomeus (Polystictus)	117
cinnamomeus (Irpex)	130
CLAUDOPUS	76
CLAVARIACEAE	141
CLAVARIA	141
CLITOCYBE	34
CLITOPILUS	74
clypeatum (Entoloma)	73
cochleatus (Lentinus)	67
colliculosum (Corticium)	139

	Page
COLLYBIA	38
columbetta (Tricholoma)	32
comatus (Coprinus)	96
commune (Schizophyllum)	70
comosa (Pholiota) Pl. IX	79
comptulus (Agaricus)	89
conchifer (Polystictus) Pl. XVI	117
conchoides (Gloeoporus)	116
confluens (Collybia)	39
confragosa (Daedalea) Pl. XVIII	124
conicus (Hygrophorus)	51
CONIOPHORA	140
connatus (Fomes)	108
connatus (Fomes)	116
contigua (Poria)	123
Cookei (Lenzites)	124
COPRINUS	95
coralloides (Hydnum)	127
cornea (Calocera)	144
corticola (Mycena)	45
CORTICIUM	137
CORTINARIUS	88
cossus (Hygrophorus)	52
Crataegi (Lenzites)	124
CRATERELLUS	132
CREPIDOTUS	86
crinale (Hydnum)	129
crispula (Clavaria)	143
cristata (Clavaria) Pl. XXIV	142
cristata (Lepiota)	28
crustiliniforme (Hebeloma)	81
Curtisii (Stereum)	136
curvipes (Pholiota)	78
CYCLOMYCES	124
DAEDALEA	123
decorosum (Tricholoma)	33
dichrous (Marasmius)	64
dichrous (Polyporus) Pl. XVI	116
digressus (Panaeolus)	99
disseminata (Psathyrella)	100
distortus (Polyporus)	116
dorsalis (Claudopus)	77
dorsalis (Crepidotus)	87
dryinus (Pleurotus)	48
dryophila (Collybia)	41
dubius (Craterellus)	132
ECCILIA	76
edulis (Boletus)	103
emetica (Russula)	60
ENTOLOMA	73
ephemerus (Coprinus)	97
epichysia (Omphalia)	46
epimyces (Panaeolus)	98
epipterygia (Mycena)	44
erinaceum (Hydnum)	128
Everhartii (Fomes)	109
EXIDIA	144
Exobasidium	145
expansus (Pluteolus)	85
fasciatum (Stereum)	135
fastibile (Hebeloma)	82
FAVOLUS	124
felleus (Boletus)	102
ferruginea (Hymenochaete)	137
ferruginosa (Poria)	122
fibula (Omphalia)	46
filamentosa (Peniophora)	140
filamentosum (Corticium)	139
fimbriata (Odontia)	132
fimbriata (Thelephora)	134
fimbriatum (Porothelium)	125
fimbripora (Poria)	120
fimentarius (Coprinus)	97
fimicola (Panaeolus)	99
firma (Fistulina)	106
FISTULINA	105
FLAMMULA	82
flava (Clavaria) Pl. XXIII	142
flavovirens (Polyporus)	112
floriforme (Hydnum)	127
foenisecii (Psilocybe)	94
foliacea (Tremella)	145
FOMES	106
fragilis (Clavaria)	143
fraxineus (Fomes)	107
fraxinophilus (Fomes)	109
Friesii (Lepiota) Pl. II	28
frondosus (Polyporus) Pl. XIV	113
Frostiana (Amanita)	24
frustulosum (Stereum)	136
fuciformis (Tremella)	145
fuliginosum (Ischnoderma)	114
fuliginosus (Lactarius)	56
fulvotomentosus (Crepidotus)	87
fulvus (Fomes)	108
fulvus (Fomes)	109
fumosus (Polyporus)	115
fuscescens (Irpex)	130
galactinum (Corticium)	137
galactinus (Polyporus)	115
GALERA	85
galericulata (Mycena) Pl. IV	43
Ganoderma	107, 108
gausapatum (Stereum)	135
geophylla (Inocybe)	80
gilvus (Polyporus) Pl. XV	114
gilvus (Polyporus)	109
glandulosa (Exidia)	144
Gloeoporus	116
gloiocephala (Volvaria)	71
GOMPHIDIUS	101
grande (Entoloma)	73
granularis (Pluteus)	72
granulatus (Boletus)	104
granulosa (Lepiota)	29
Greenii (Cyclomyces)	124
GUEPINIA	144
haematopa (Mycena)	44
HEBELOMA	81

Page

herbarum (Crepidotus) 87
heterocystidia (Peniophora) 140
Hexagona 125
Hydnellum 127
hirsutum (Stereum) 135
hirsutus (Polystictus) 119
hirtellus (Boletus) 104
hispidoides (Polyporus) 112
HYDNACEAE 126
HYDNUM 126
hygrophoroides (Lactarius) 56
HYGROPHORUS 50
HYMENOCHAETE 136
HYPHOLOMA 92
HYPOCHNUS 141
hysginus (Lactarius) 54
igniarius (Fomes) 103
ignobilis (Collybia) 41
illinita (Lepiota) 29
illudens (Clitocybe) Pl. III 36
imbricatum (Tricholoma) 32
incarnata (Peniophora) 140
incertum (Hypholoma) 93
Indigo (Lactarius) 55
induratus (Polyporus) 121
infundibuliformis (Cantharellus) 63
infundibuliformis (Clitocybe) 36
INOCYBE 79
interna (Poria) 120
involutus (Paxillus) 89
iodes (Cortinarius) 88
IRPEX 129
Ischnoderma 114
jonoides (Corticium) 139
Juglandina (Poria) 122
kansensis (Polyporus) 113
Kunzei (Clavaria) 143
laccata (Clitocybe) 36
laccata (Clitocybe) 37, 57
lachrymabundum (Hypholoma) Pl. XI 92
LACTARIUS 53
lactea (Russula) 59
lacteum (Corticium) 140
lacteus (Irpex) Pl. XIX 130
Lactiporus 113
laevis (Peniophora) 140
lanuginosa (Inocybe) 80
Leaiana (Mycena) 45
Lecomtei (Lentinus) 66
lenta (Flammula) 83
LENTINUS 66
LENZITES 69
lepideus (Lentinus) 67
LEPIOTA 26
LEPTONIA 75
leucophaeus (Fomes) 108
lipsiensis (Fomes) 108
longipes (Marasmius) 64
lucidus (Fomes) 107
luteolus (Lactarius) 57

Page

maculata (Collybia) 39
magna (Flammula) 83
malachius (Crepidotus) 86
MARASMIUS 63
marginata (Pholiota) 77
mastrucatus (Pleurotus) 49
medulla-panis (Poria) 120
megaloma (Fomes) 108
mellea (Armillaria) 31
merismoides (Phlebia) 131
MERULIUS 125
metulaespora (Lepiota) 30
micaceus (Coprinus) 97
miniato-olivaceus (Boletus) 103
miniatus (Hygrophorus) 51
mollis (Crepidotus) 87
mollusca (Poria) 120
monstrosa (Clitocybe) 36
Morgani (Lepiota) 27
Morgani (Polyporus) 113
Mucronoporus 109, 123
multiceps (Clitocybe) 35
multipartita (Thelephora) 133
muscaria (Amanita) 24
muscoides (Clavaria) 142
MYCENA 42
myceto phila (Tremella) 145
Myriadoporus 115, 121

nanus (Pluteus) 72
naucina (Lepiota) 29
naucinoides (Lepiota) 29
NAUCORIA 84
neglecta (Peniophora) 139
nidulans (Claudopus) Pl. VIII 76
nidulans (Polyporus) 114
nigricans (Entoloma) 74
nigricans (Russula) 58
nigripes (Marasmius) 66
nigrum (Hydnum) 127
niveus (Polyporus) 114
nodulosus (Irpex) 130
Nyssae (Hydnum) 129

Oakesii (Corticium) 138
obducens (Poria) 121
oblectans (Polystictus) 117
ochracea (Russula) 62
ochracea (Solenia) 126
ochraceo-flavum (Stereum) 135
ochraceum (Hydnum) 128
ochrophylla (Russula) 61
ochropurpurea (Clitocybe) Pl. III 37
ODONTIA 132
odora (Clitocybe) 35
OMPHALIA 45
orbiculare (Radulum) 131
oreades (Marasmius) 64
ostreatus (Pleurotus) 49

pallescens (Corticium) 138
pallida (Fistulina) 105
pallidum (Hydnum) 128

	Page
pallidum (Radulum)	131
palmata (Calocera)	144
palmata (Thelephora)	133
PANAEOLUS	98
pantherina (Amanita)	24
PANUS	68
papilionaceus (Panaeolus)	99
PAXILLUS	89
Peckii (Trametes)	123
pectinata (Russula)	60
pelliculosus (Lentinus)	66
PENIOPHORA	139
pentagonospora (Eccilia)	76
pergamenus (Lactarius)	55
pergamenus (Polystictus)	118
perplexum (Hypholoma)	92
personatum (Tricholoma)	33
Phaeolus	112
phalloides (Amanita)	23
PHLEBIA	131
PHOLIOTA	77
piceina (Clitocybe) Pl. II	34
picipes (Polyporus) Pl. XII	112
piperatus (Lactarius) Pl. VI	55
pistillaris (Clavaria) Pl. XXII	143
placomyces (Agaricus)	91
platyphylla (Collybia)	38
PLEUROTUS	47
plicatilis (Coprinus)	97
PLUTEOLUS	85
PLUTEUS	72
polychroa (Flammula) Pl. X	83
POLYPORACEAE	101
POLYPORUS	110
POLYSTICTUS	117
populinus (Fomes)	108
PORIA	119
poripes (Polyporus)	112
porosus (Boletinus)	105
POROTHELIUM	125
praecox (Pholiota)	78
pratensis (Hygrophorus)	52
procera (Lepiota) Pl. I	27
proxima (Lenzites)	124
prunulus (Clitopilus)	75
PSATHYRA	95
PSATHYRELLA	100
pseudoboletum (Ganoderma)	107
PSILOCYBE	94
puellaris (Russula)	61
pulchella (Poria)	122
pulchella (Poria)	120
pura (Mycena)	44
purpureum (Stereum)	135
pusilla (Volvaria)	71
pyrocephalus (Marasmius)	64
pyxidata (Clavaria)	142
radicata (Collybia)	38
radiata (Phlebia)	131
radicatus (Polyporus)	113
RADULUM	131
rameale (Stereum)	135
repandum (Hydnum)	126
resinosus (Polyporus) Pl. XV	114
retirugis (Panaeolus)	98
rhodocylix (Eccilia)	76
rhodopolium (Entoloma)	73
Ribis (Fomes)	110
Ribis (Fomes)	115
rigida (Trametes)	123
rigidipes (Inocybe)	80
rimosa (Inocybe)	81
rimosus (Fomes)	109
Romelia	112
roseus (Fomes)	107
rotula (Marasmius)	65
rubescens (Amanita)	25
rubescens (Trametes)	124
rubiginosa (Hymenochaete)	137
rubra (Russula)	59
rubrotincta (Lepiota)	28
rufum (Stereum)	135
rugosa (Mycena)	42
RUSSULA	58
russula (Tricholoma)	32
rustica (Omphalia)	46
salicinum (Corticium)	138
salignus (Pleurotus)	48
salignus (Polyporus)	121
salmonicolor (Poria)	122
sapidus (Pleurotus)	49
sapinea (Flammula) Pl. IX	82
scaber (Boletus)	103
SCHIZOPHYLLUM	70
Schweinitzii (Polyporus)	111
Schweinitzii (Thelephora) Pl. XXII	133
scoparia (Thelephora)	134
scutellatus (Fomes)	110
scyphoides (Omphalia)	47
sebaceum (Corticium)	138
semiglobata (Stropharia)	91
semiorbicularis (Naucoria)	84
semivestita (Psathyra)	95
separans (Boletus)	102
separata (Anellaria)	100
sepiaria (Lenzites)	69
septentrionale (Hydnum) Pl. XX, XXI	128
serena (Poria)	122
serotinus (Pleurotus)	48
siccus (Marasmius)	65
silvaticus (Agaricus)	90
silvicola (Agaricus)	90
simillimus (Polystictus)	117
sinuosus (Irpex)	130
sistotremoides (Romelia, Phaeolus)	112
socialis (Clitocybe)	35
SOLENIA	125
solidipes (Panaeolus)	98

Page

sordidus (Lactarius) 54
spadicea (Psilocybe) 94
spadiceum (Stereum) 136
spathularia (Guepinia) 144
speciosa (Volvaria) 70
speciosus (Lactiporus) 113
spissa (Poria) 122
spongiosus (Hypochnus) 141
spumosa (Flammula) 83
squamulosum (Lentodium) 68
stellata (Omphalia) 46
stercoraria (Stropharia) 91
STEREUM 134
stipticus (Panus) 68
striatum (Stereum) 135
stricta (Clavaria) 143
strictipes (Collybia) 40
strobilaceus (Strobilomyces) 105
STROBILOMYCES 105
STROPHARIA 91
stuppeus (Trametes) 123
subacida (Poria) 121
subaquilum (Hypholoma) 93
subceraceum (Corticium) 139
subdulcis (Lactarius) 57
sublateritium (Hypholoma) 92
subluteus (Boletus) 104
subsericeus (Polystictus) 117
suffocata (Coniophora) 141
sulphureus (Polyporus) Pl. XIII, XIV 113

tabacinus (Irpex) 130
tabulaeformis (Polyporus) 112
tenera (Galera) 85
tenuis (Mycena) 43
tenuis (Odontia) 132
terreum (Tricholoma) 32
theiogalus (Lactarius) 56
THELEPHORA 132
THELEPHORACEAE 132
tigrinus (Lentinus) Pl. VI 67
tiliophilus (Crepidotus) 86
Togaria 78
torminosus (Lactarius) 53
torulosus (Panus) 68
TRAMETES 123
TREMELLA 144
TREMELLACEAE 144
tremellosus (Merulius) 125
TRICHOLOMA 31
trivialis (Lactarius) 54

ulmarius (Pleurotus) Pl. V 47
ulmarius (Fomes) 110
umbonata (Psathyra) 95
unicolor (Daedalea) Pl. XVII 123
urens (Marasmius) 63

vaginata (Amanitopsis) 26
vaporaria (Poria) 121
variabilis (Claudopus) 77
variegatus (Coprinus) 96
varius (Polyporus) 113
vellereum (Corticium) 138
velutipes (Collybia) 39
verna (Amanita) 24
vernalis (Naucoria) 84
versicolor (Polystictus) Pl. XVII 118
vialis (Lenzites) Pl. VIII 69
vialis (Thelephora) 133
violaceus (Cortinarius) 88
virescens (Russula) 59
virgineus (Hygrophorus) 52
viscidus (Gomphidius) 101
volemus (Lactarius) 57
VOLVARIA 70

xantholoma (Poria) 122

zonata (Collybia) 40
zonatum (Hydnum) 127

PLATE I.

LEPIOTA PROCERA; COLL. WINFIELD, ILL.; SEPT., 1903; PHOTO WOODRUFF.

PLATE II.

FIG. 1. LEPIOTA FRIESII LASCH; WOODS GLENCOE ILL.; SEPT. 26, 1903; PHOTO HARPER.

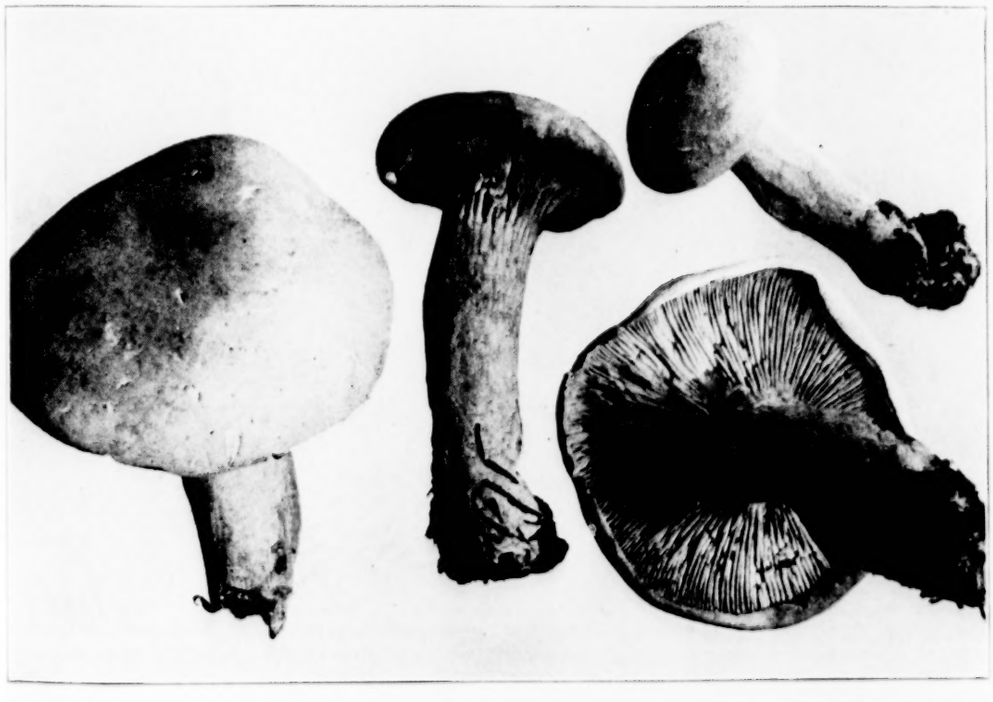


FIG 2. CLITOCYBE PICEINA PK.; COLL. WILMETTE, ILL., DR. WATSON; SEPT. 21, 1903 PHOTO HARPER.

PLATE III.

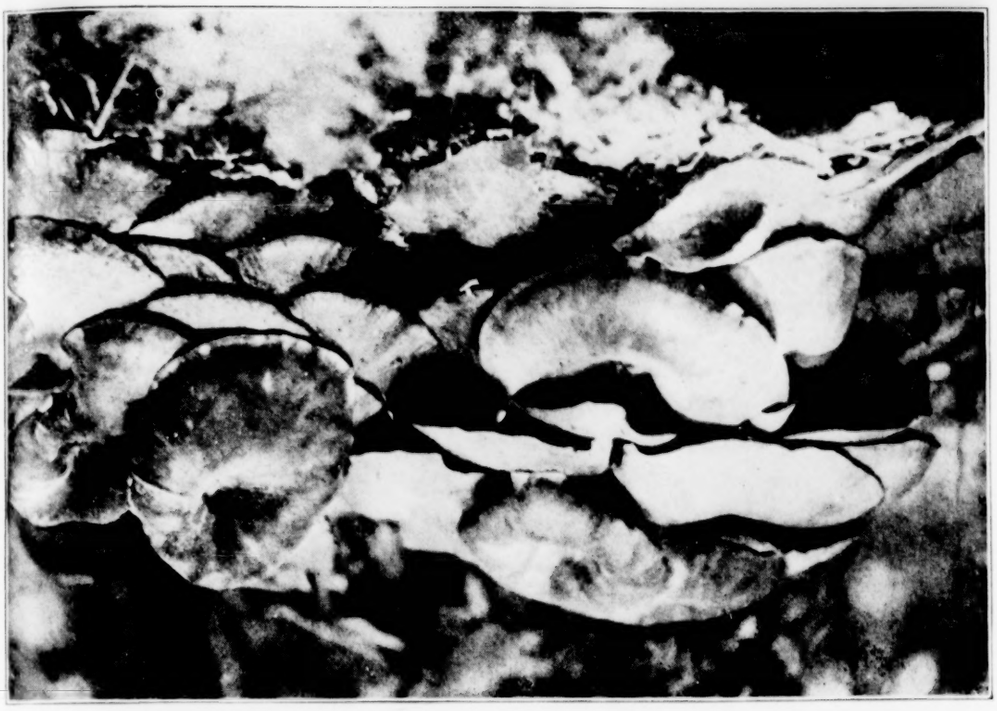


FIG. 1. CLITOCYBE ILLUDENS; PHOTO WYRICK

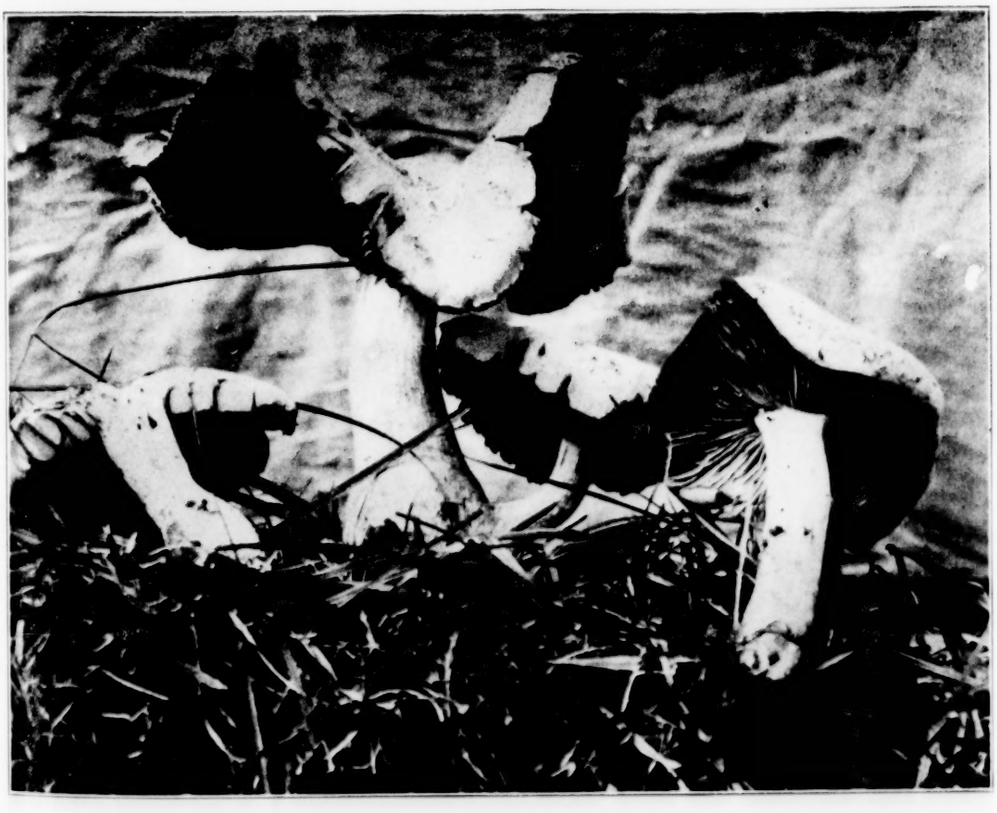
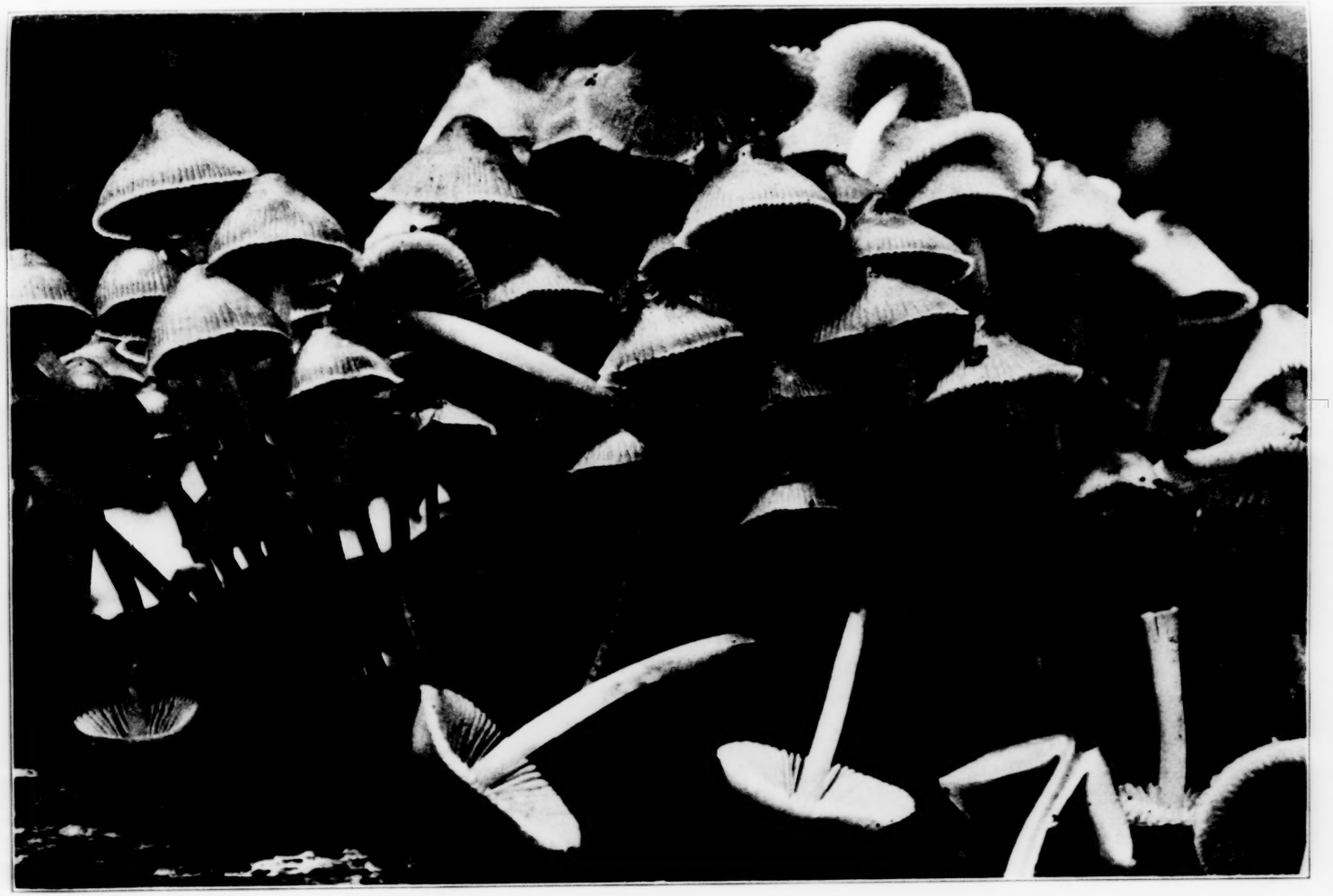
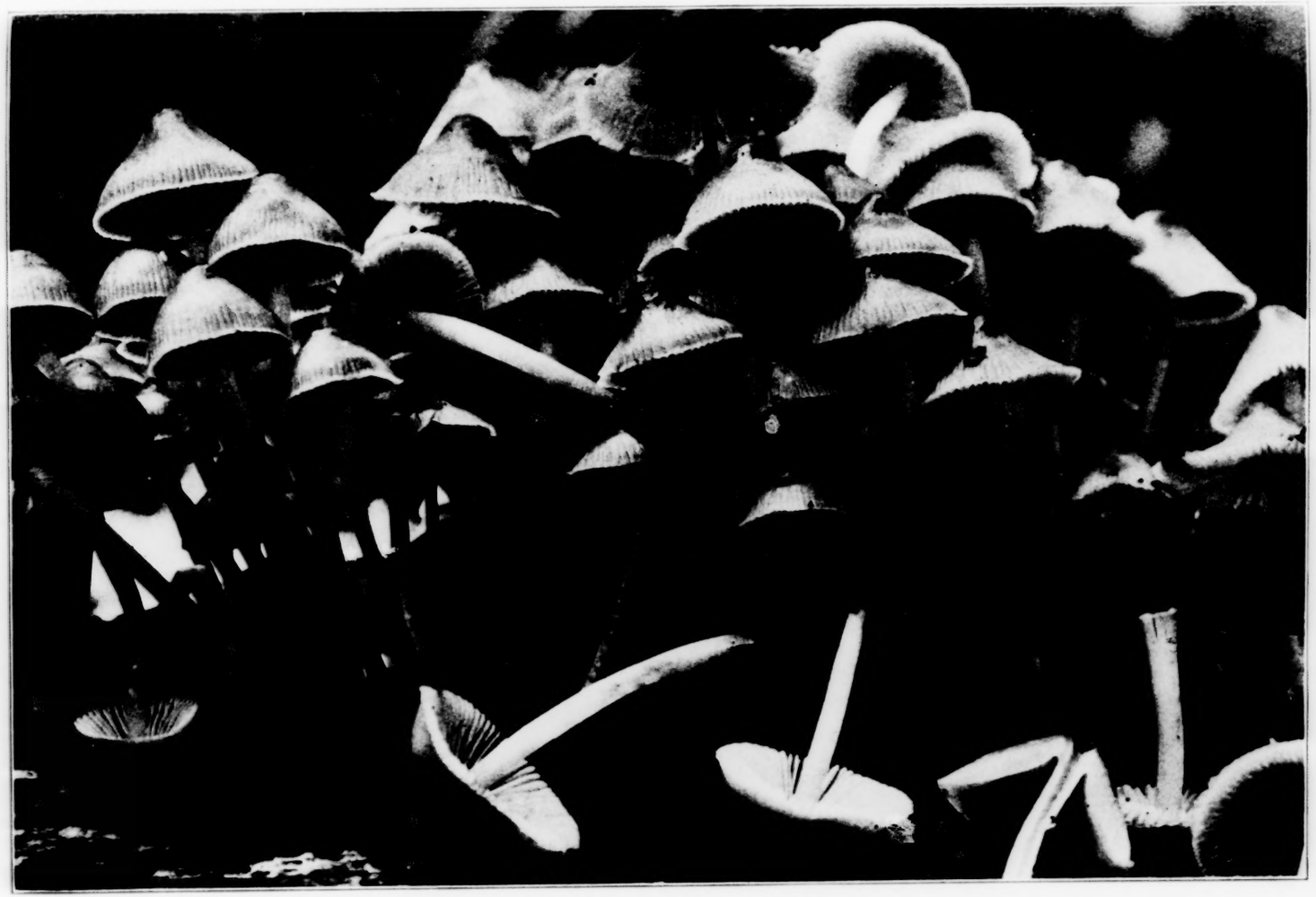


FIG. 2. CLITOCYBE OCHROPURPUREA; WOODS LOMBARD, ILL.; SEPT. 19, 1903; PHOTO HARPER.



MYCENA GALERICULATA SCOP. PHOTO WYRICK.



MYCENA GALERICULATA SCOP. PHOTO WYRICK.

PLATE V.

FIG. 1. UNDER SURFACE PLEUROTUS ULMARIUS FR.; ON ELM TRUNKS, RIVER FOREST, ILL.; NOV., 1898.

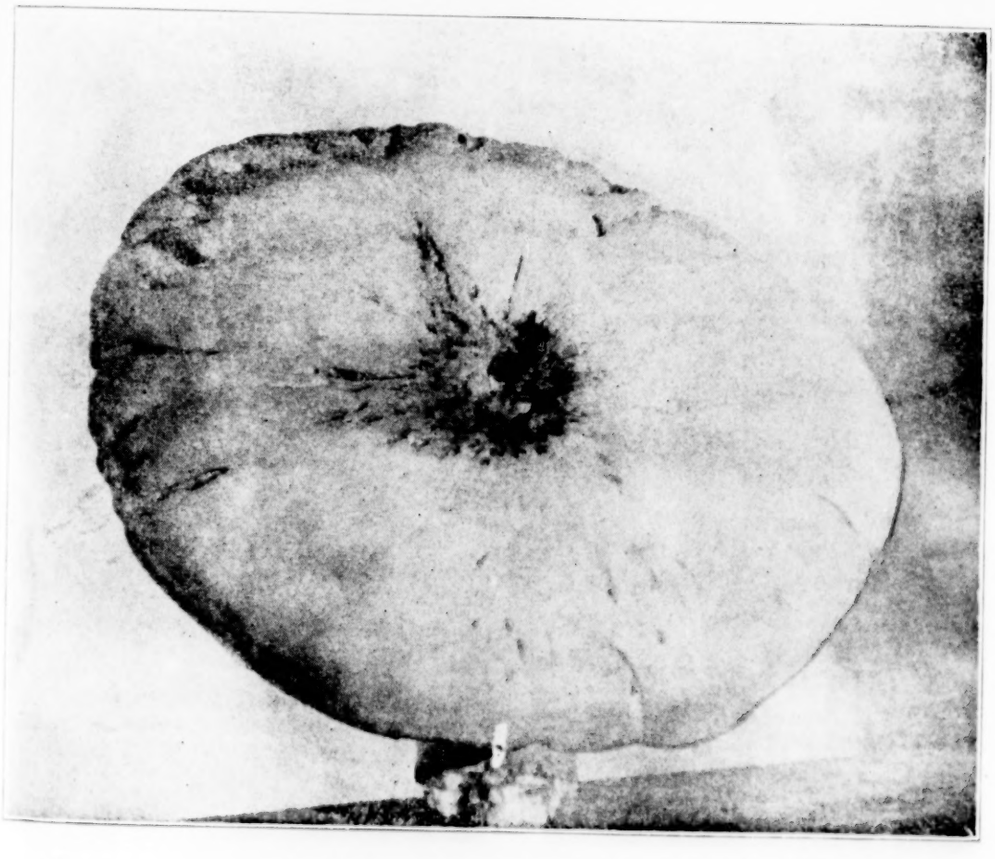


FIG. 2. UPPER SURFACE. PLEUROTUS ULMARIUS FR.; ON ELM TRUNKS, RIVER FOREST, ILL.; NOV., 1898.

PLATE VI.

FIG. 1. LACTARIUS PIPERATUS FR.; GLEN ELLYN, ILL.; JULY 15, 1898.

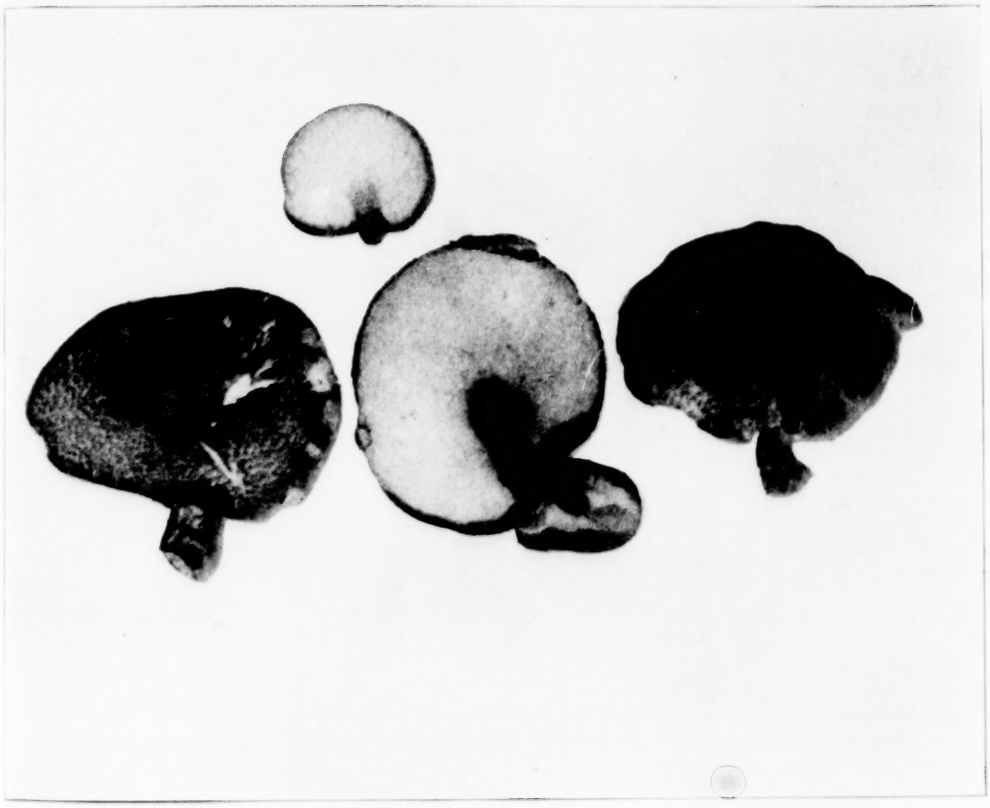


FIG. 2. LENTINUS TIGRINUS; BASE OF STUMPS; RIVER FOREST, ILL.; OCT. 10, 1903; PHOTO HARPER.

PLATE VII.

CANTHARELLUS AURANTIACUS FR.

PLATE VIII.

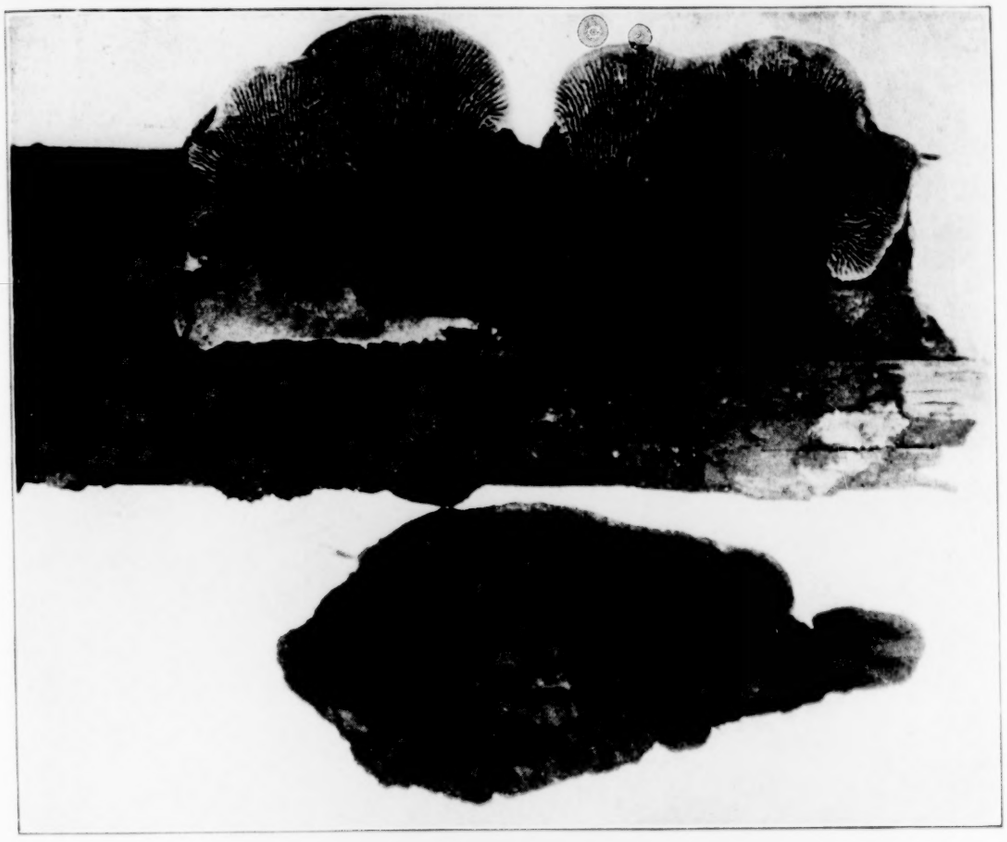


FIG. 1. LENZITES VIALIS; ON PINE LOGS; MILLERS, IND.; OCT. 17, 1903; PHOTO HARPER.

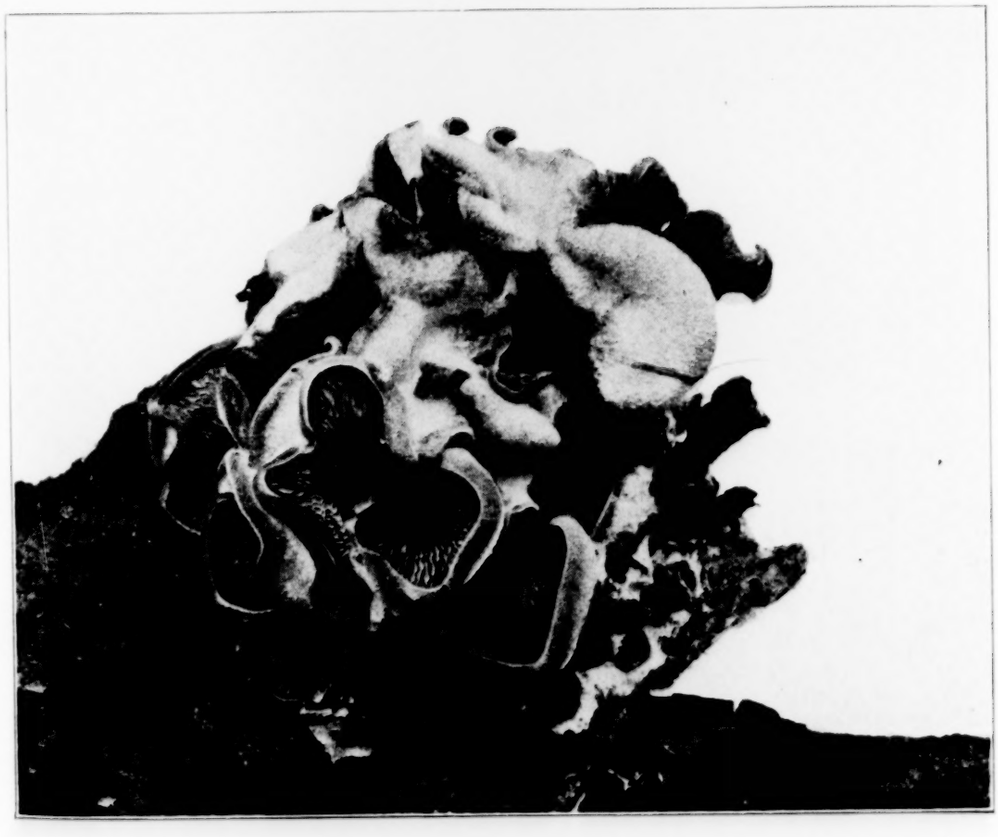


FIG. 2. CLAUDOPUS NIDULANS PERS.; ON POPLAR; GLENCOE, ILL.; SEPT. 26, 1903; PHOTO HARPER.

PLATE IX.

FIG. 1. PHOLIOTA COMOSA; OCT. 19, 1903; PHOTO HARPER.

FIG. 2. FLAMMULA SAPINEA; ON DEAD PINE, MILLERS, IND.; OCT. 17, 1903; PHOTO HARPER.

FIG. 1. FLAMMULA POLYCHROA; ON ROTTEN LOG GLENCOE, ILL.; SEPT. 26, 1903; PHOTO HARPER.

FIG. 2. FLAMMULA POLYCHROA; ON ROTTEN LOG MILLERS, IND.; OCT. 17, 1903; PHOTO HARPER.

PLATE XI.

FIG. 1. HYPHOLOMA LACHRYMABUNDUM FR.; WOODS GLENCOE, ILL.; SEPT. 26, 1903; PHOTO HARPER.

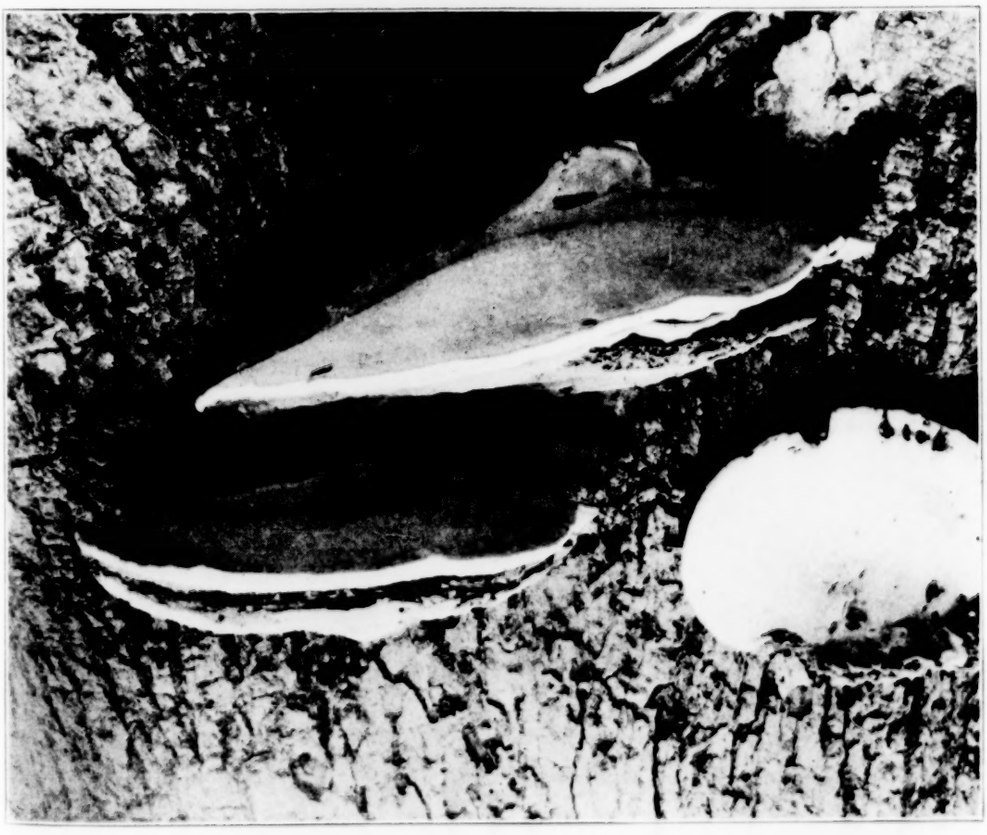


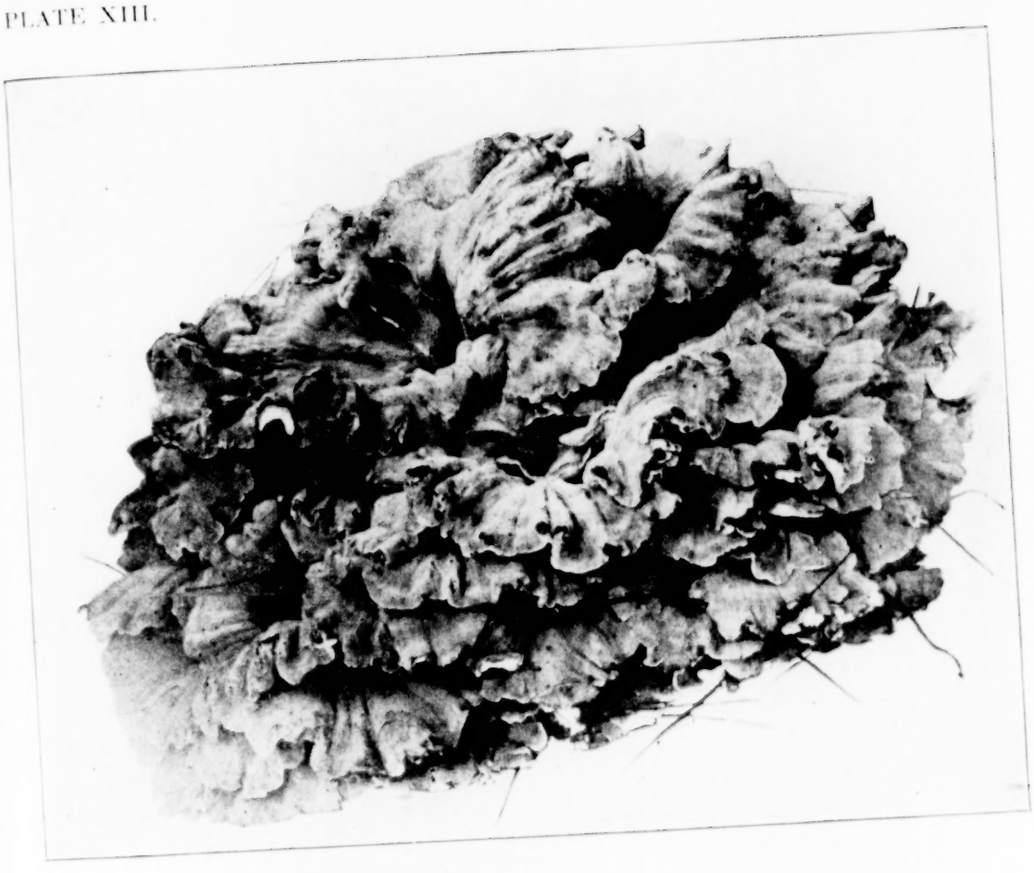
FIG. 2. FOMES APPLANATUS PERS.; WOODS GLENCOE, ILL.; SEPT. 26, 1903; PHOTO HARPER.

PLATE XII.

FIG. 1. POLYPORUS BRUMALIS FR.; ON FALLEN, DECAYED BRANCHES, WOODS BOWMANVILLE, ILL.; MAY 13, 1899.

FIG. 2. POLYPORUS PICIPES; WOODS GLEN ELLYN, ILL.; SEPT. 19, 1903; PHOTO HARPER.

PLATE XIII.



POLYPORUS SULPHUREUS BULL.: PHOTO WYRICK.

PLATE XIV.

FIG. 1. POLYPORUS SULPHUREUS; YOUNG SPOROPHORE. LINCOLN PARK, CHICAGO, SEPT., 1903, BY PROF. W. R. HIGLEY; PHOTO F. M. WOODRUFF.

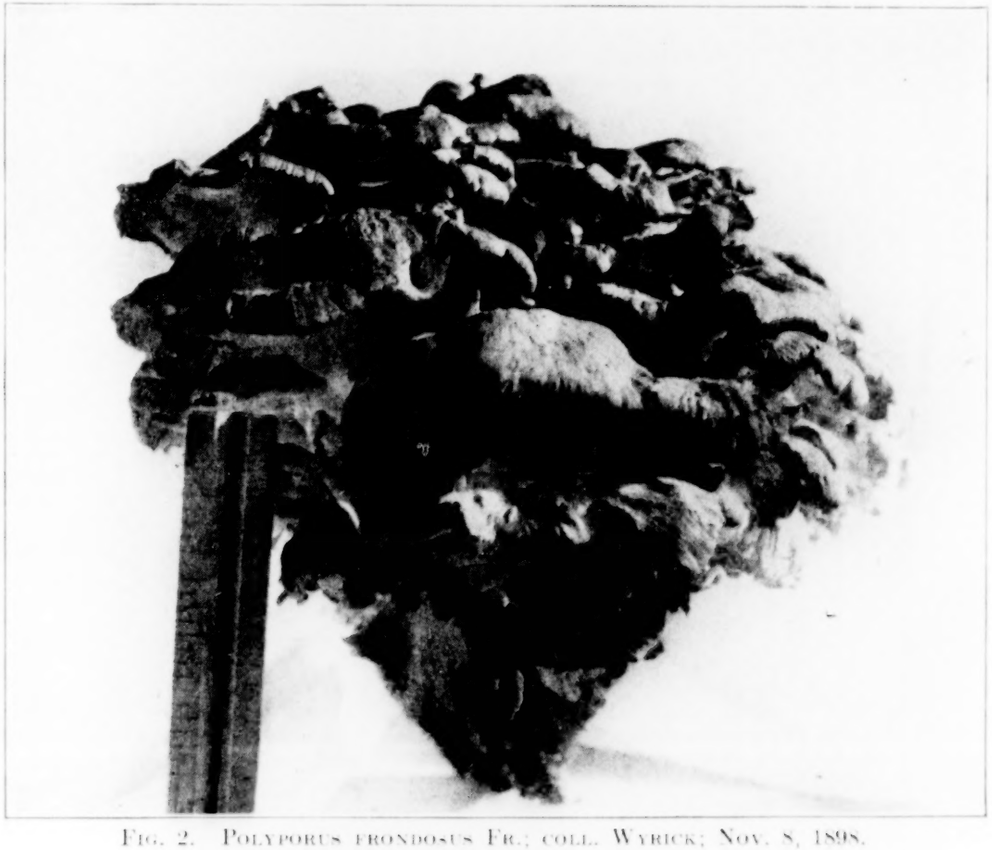


FIG. 2. POLYPORUS FRONDOSUS FR.; COLL. WYRICK; NOV. 8, 1898.

PLATE XV.

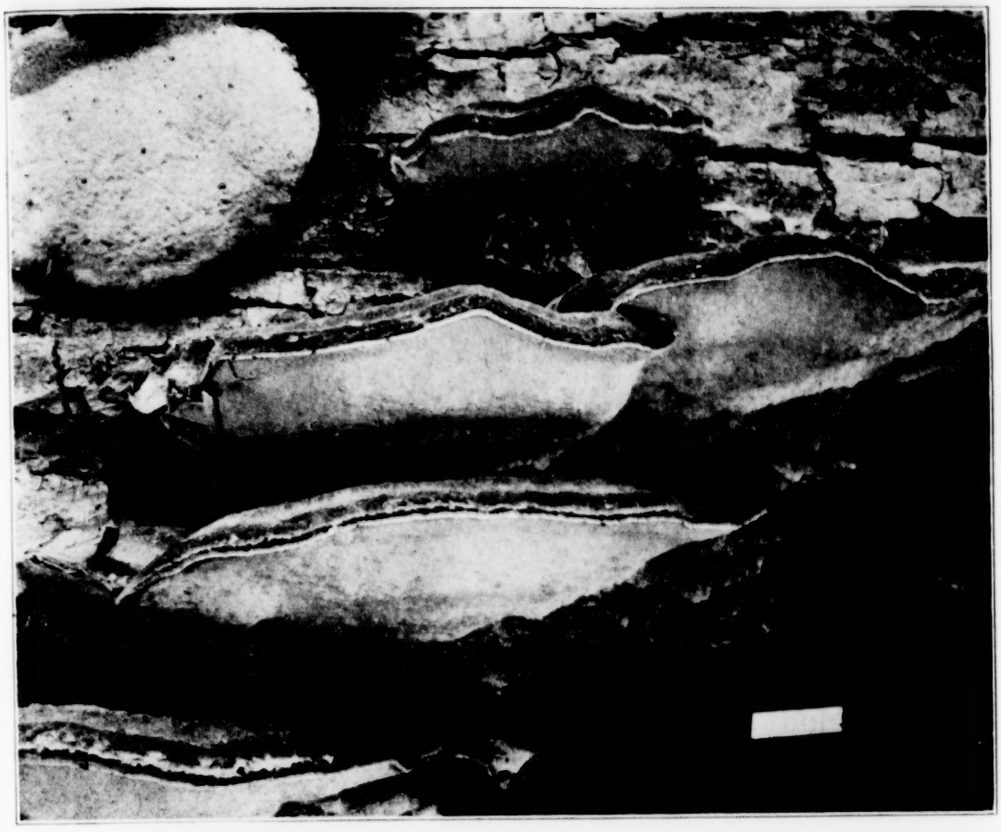


FIG. 1. POLYPORUS RESINOSUS SCHRAD.

FIG. 2. POLYPORUS GILVUS; ON DEAD QUERCUS GLENCOE, ILL.; SEPT. 25, 1903; PHOTO HARPER.

PLATE XVI.

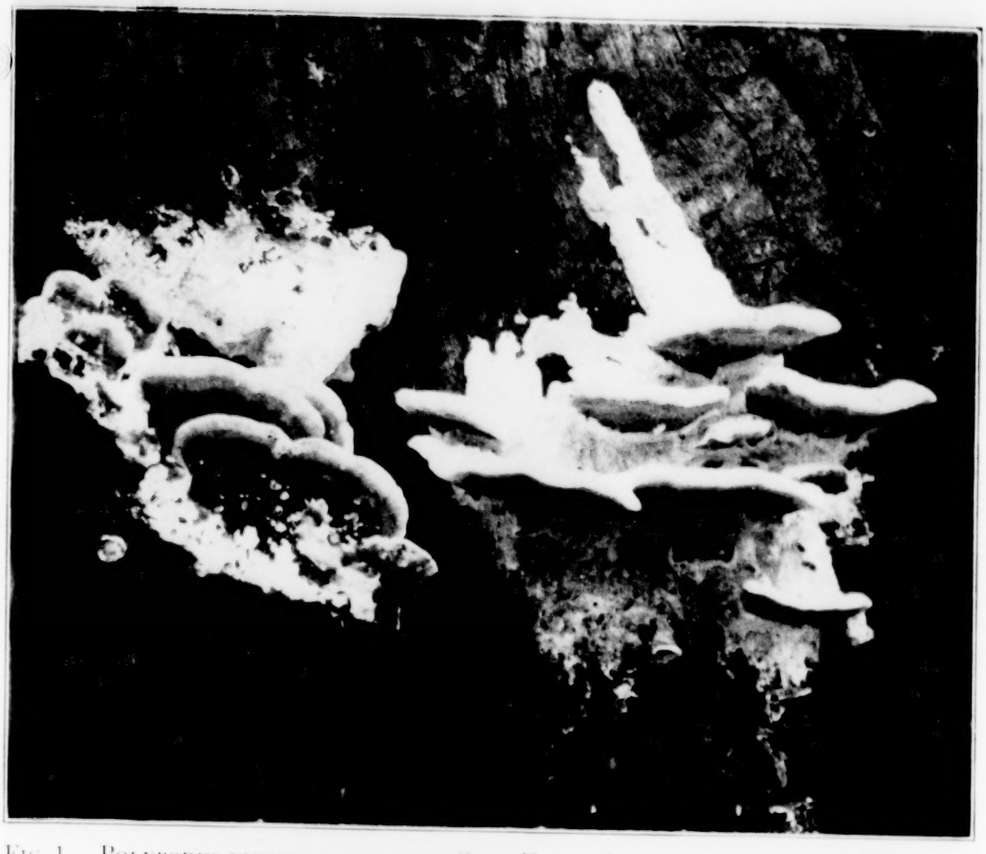


FIG. 1. POLYPORUS DICHROUS; ON STUMP GLEN ELLYN, ILL.; OCT. 3, 1903; PHOTO HARPER.

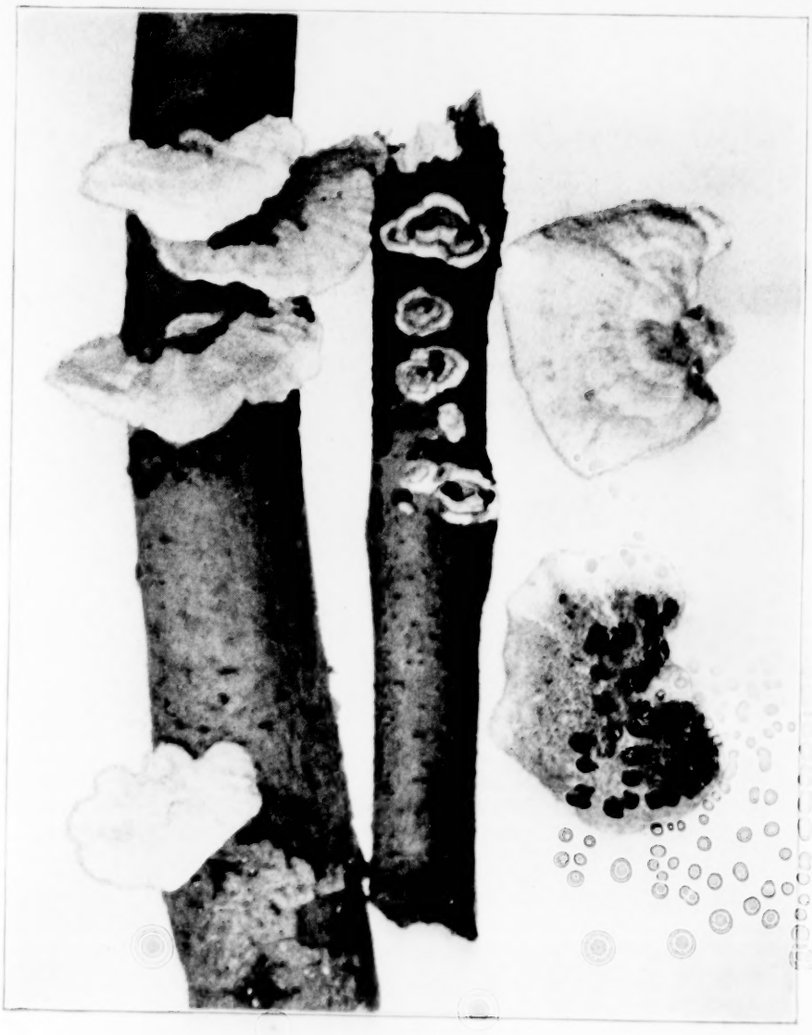


FIG. 2. POLYSTICTUS CONCHIFER SCHW.; ON DEAD STICKS RIVER FOREST, ILL.; OCT. 10, 1903; PHOTO HARPER.

PLATE XVII.

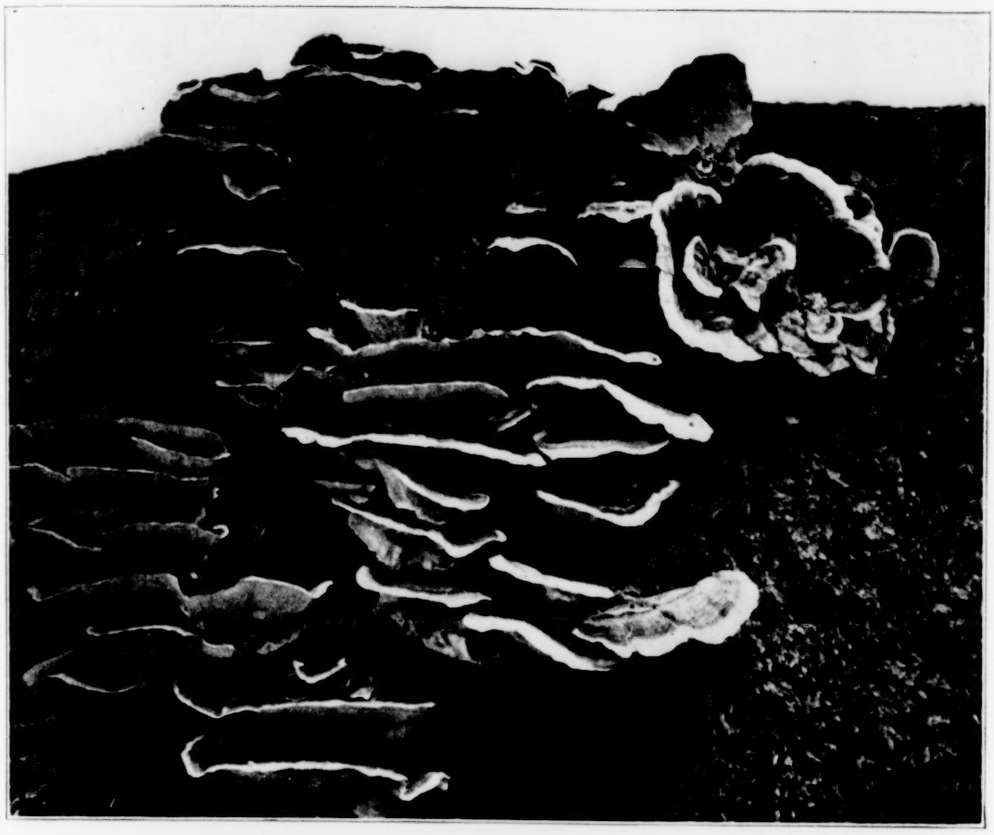


FIG. 1. POLYSTICTUS VERSICOLOR; ON STUMP GLEN ELLYN, ILL.; OCT. 3, 1903; PHOTO HARPER.

FIG. 2. DAEDALEA UNICOLOR BULL.; ON STUMP GLEN ELLYN ILL.; OCT. 3, 1903; PHOTO HARPER.

PLATE XVIII.

DAEDALEA CONFRAGOSA BOLT; ON STUMPS RIVER FOREST, ILL.; OCT. 10, 1903; PHOTO HARPER.

PLATE XIX.

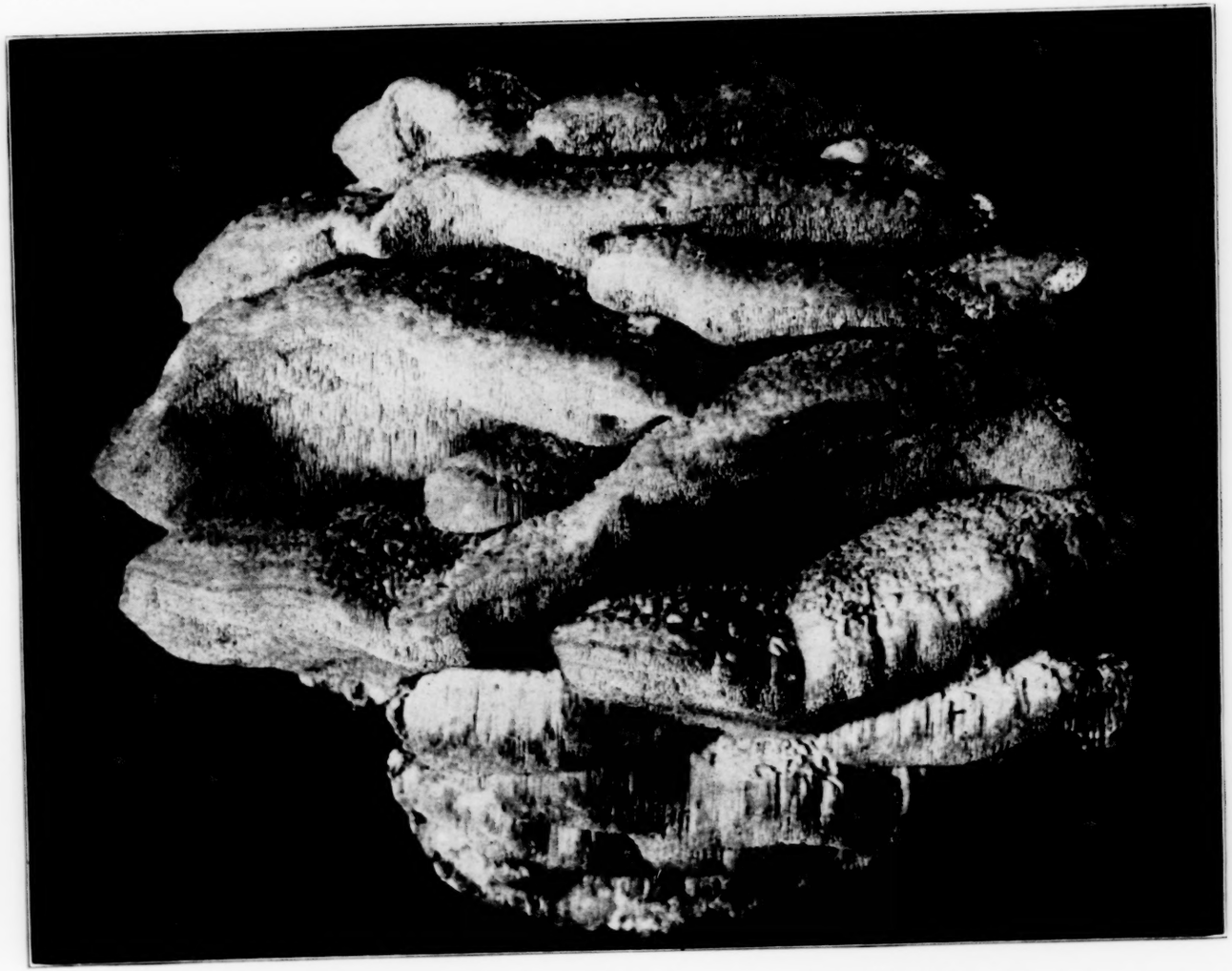
FIG. 1. HYDNUM CAPUT-URSI; ON CUT END OF LOG RIVER FOREST, ILL.; OCT. 10, 1903; PHOTO HARPER.

FIG. 2. IRPEX LACTEUS FR.; PHOTO HARPER.

PLATE XX.

HYDNUM SEPTENTRIONALE: UNDER SURFACE; PHOTO WYRICK.

PLATE XXI.



HYDNUM SEPTENTRIONALE: UPPER SURFACE: PHOTO WYRICK.

PLATE XXII.

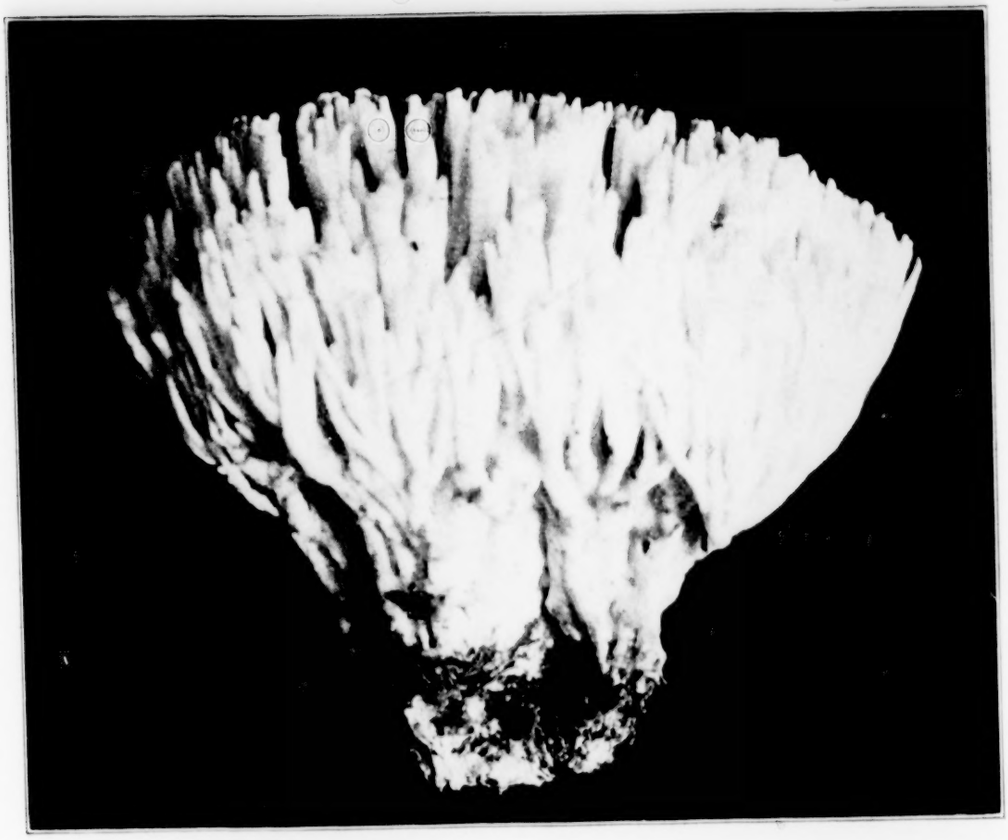


Fig. 1. Thelephora Schweinitzii, near Madison, Wis.; Aug., 1903; coll. and photo by Prof. E. T. Harper.

Fig. 2. Clavaria pistillaris L., coll. and photo Harper.

PLATE XXIII.

CLAVARIA FLAVA SCHAEFF; AUG., 1903; PHOTO HARPER.

PLATE XXIV.

FIG. 2. CLAVARIA CRISTATA; PHOTO E. T. HARPER.